

SEQLIST-20480.TXT

Ser Leu Pro Val₂₀ Leu Gln Val Arg Asp₂₅ Val Leu Val Arg Gly₃₀ Phe Gly
 Asp Ser Val₃₅ Glu Glu Ala Leu Ser₄₀ Glu Ala Arg Glu His₄₅ Leu Lys Asn
 Gly Thr₅₀ Cys Gly Leu Val Glu₅₅ Leu Glu Lys Gly Val₆₀ Leu Pro Gln Leu
 Glu Gln Pro Tyr Val Phe₇₀ Ile Lys Arg Ser Asp₇₅ Ala Leu Ser Thr Asn₈₀
 His Gly His Lys Val₈₅ Val Glu Leu Val Ala₉₀ Glu Met Asp Gly Ile₉₅ Gln
 Tyr Gly Arg Ser₁₀₀ Gly Ile Thr Leu Gly₁₀₅ Val Leu Val Pro His₁₁₀ Val Gly
 Glu Thr Pro₁₁₅ Ile Ala Tyr Arg Asn₁₂₀ Val Leu Leu Arg Lys₁₂₅ Asn Gly Asn
 Lys Gly₁₃₀ Ala Gly Gly His Ser₁₃₅ Tyr Gly Ile Asp Leu₁₄₀ Lys Ser Tyr Asp
 Leu₁₄₅ Gly Asp Glu Leu Gly₁₅₀ Thr Asp Pro Ile Glu₁₅₅ Asp Tyr Glu Gln Asn₁₆₀
 Trp Asn Thr Lys His₁₆₅ Gly Ser Gly Ala Leu₁₇₀ Arg Glu Leu Thr Arg₁₇₅ Glu
 Leu Asn Gly Gly₁₈₀ Ala Val Thr Arg Tyr₁₈₅ Val Asp Asn Asn Phe₁₉₀ Cys Gly
 Pro Asp Gly₁₉₅ Tyr Pro Leu Asp Cys₂₀₀ Ile Lys Asp Phe Leu₂₀₅ Ala Arg Ala
 Gly Lys₂₁₀ Ser Met Cys Thr Leu₂₁₅ Ser Glu Gln Leu Asp₂₂₀ Tyr Ile Glu Ser
 Lys₂₂₅ Arg Gly Val Tyr Cys₂₃₀ Cys Arg Asp His Glu₂₃₅ His Glu Ile Ala Trp₂₄₀
 Phe Thr Glu Arg Ser₂₄₅ Asp Lys Ser Tyr Glu₂₅₀ His Gln Thr Pro Phe₂₅₅ Glu
 Ile Lys Ser Ala₂₆₀ Lys Lys Phe Asp Thr₂₆₅ Phe Lys Gly Glu Cys₂₇₀ Pro Lys
 Phe Val Phe₂₇₅ Pro Leu Asn Ser Lys₂₈₀ Val Lys Val Ile Gln₂₈₅ Pro Arg Val
 Glu Lys₂₉₀ Lys Lys Thr Glu Gly₂₉₅ Phe Met Gly Arg Ile₃₀₀ Arg Ser Val Tyr
 Pro Val Ala Ser Pro Gln₃₁₀ Glu Cys Asn Asn Met₃₁₅ His Leu Ser Thr Leu₃₂₀
 Met Lys Cys Asn His₃₂₅ Cys Asp Glu Val Ser₃₃₀ Trp Gln Thr Cys Asp₃₃₅ Phe
 Leu Lys Ala Thr₃₄₀ Cys Glu His Cys Gly₃₄₅ Thr Glu Asn Leu Val₃₅₀ Ile Glu

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Gly Pro Thr Thr Cys Gly Tyr Leu Pro Thr Asn Ala Val Val Lys Met
355 360 365

Pro Cys Pro Ala Cys Gln Asp Pro Glu Ile Gly Pro Glu His Ser Val
370 375 380

Ala Asp Tyr His Asn His Ser Asn Ile Glu Thr Arg Leu Arg Lys Gly
385 390 395 400

Gly Arg Thr Arg Cys Phe Gly Gly Cys Val Phe Ala Tyr Val Gly Cys
405 410 415

Tyr Asn Lys Arg Ala Tyr Trp Val Pro Arg Ala Ser Ala Asp Ile Gly
420 425 430

Ser Gly His Thr Gly Ile Thr Gly Asp Asn Val Glu Thr Leu Asn Glu
435 440 445

Asp Leu Leu Glu Ile Leu Ser Arg Glu Arg Val Asn Ile Asn Ile Val
450 455 460

Gly Asp Phe His Leu Asn Glu Glu Val Ala Ile Ile Leu Ala Ser Phe
465 470 475 480

Ser Ala Ser Thr Ser Ala Phe Ile Asp Thr Ile Lys Ser Leu Asp Tyr
485 490 495

Lys Ser Phe Lys Thr Ile Val Glu Ser Cys Gly Asn Tyr Lys Val Thr
500 505 510

Lys Gly Lys Pro Val Lys Gly Ala Trp Asn Ile Gly Gln Gln Arg Ser
515 520 525

Val Leu Thr Pro Leu Cys Gly Phe Pro Ser Gln Ala Ala Gly Val Ile
530 535 540

Arg Ser Ile Phe Ala Arg Thr Leu Asp Ala Ala Asn His Ser Ile Pro
545 550 555 560

Asp Leu Gln Arg Ala Ala Val Thr Ile Leu Asp Gly Ile Ser Glu Gln
565 570 575

Ser Leu Arg Leu Val Asp Ala Met Val Tyr Thr Ser Asp Leu Leu Thr
580 585 590

Asn Ser Val Ile Ile Met Ala Tyr Val Thr Gly Gly Leu Val Gln Gln
595 600 605

Thr Ser Gln Trp Leu Ser Asn Leu Leu Gly Thr Thr Val Glu Lys Leu
610 615 620

Arg Pro Ile Phe Glu Trp Ile Glu Ala Lys Leu Ser Ala Gly Val Glu
625 630 635 640

Phe Leu Lys Asp Ala Trp Glu Ile Leu Lys Phe Leu Ile Thr Gly Val
645 650 655

Phe Asp Ile Val Lys Gly Gln Ile Gln Val Ala Ser Asp Asn Ile Lys
660 665 670

Asp Cys Val Lys Cys Phe Ile Asp Val Val Asn Lys Ala Leu Glu Met
675 680 685

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Cys Ile Asp Gln Val Thr Ile Ala Gly Ala Lys Leu Arg Ser Leu Asn
 690 695 700
 Leu Gly Glu Val Phe Ile Ala Gln Ser Lys Gly Leu Tyr Arg Gln Cys
 705 710 715 720
 Ile Arg Gly Lys Glu Gln Leu Gln Leu Leu Met Pro Leu Lys Ala Pro
 725 730 735
 Lys Glu Val Thr Phe Leu Glu Gly Asp Ser His Asp Thr Val Leu Thr
 740 745 750
 Ser Glu Glu Val Val Leu Lys Asn Gly Glu Leu Glu Ala Leu Glu Thr
 755 760 765
 Pro Val Asp Ser Phe Thr Asn Gly Ala Ile Val Gly Thr Pro Val Cys
 770 775 780
 Val Asn Gly Leu Met Leu Leu Glu Ile Lys Asp Lys Glu Gln Tyr Cys
 785 790 795 800
 Ala Leu Ser Pro Gly Leu Leu Ala Thr Asn Asn Val Phe Arg Leu Lys
 805 810 815
 Gly Gly Ala Pro Ile Lys Gly Val Thr Phe Gly Glu Asp Thr Val Trp
 820 825 830
 Glu Val Gln Gly Tyr Lys Asn Val Arg Ile Thr Phe Glu Leu Asp Glu
 835 840 845
 Arg Val Asp Lys Val Leu Asn Glu Lys Cys Ser Val Tyr Thr Val Glu
 850 855 860
 Ser Gly Thr Glu Val Thr Glu Phe Ala Cys Val Val Ala Glu Ala Val
 865 870 875 880
 Val Lys Thr Leu Gln Pro Val Ser Asp Leu Leu Thr Asn Met Gly Ile
 885 890 895
 Asp Leu Asp Glu Trp Ser Val Ala Thr Phe Tyr Leu Phe Asp Asp Ala
 900 905 910
 Gly Glu Glu Asn Phe Ser Ser Arg Met Tyr Cys Ser Phe Tyr Pro Pro
 915 920 925
 Asp Glu Glu Glu Glu Asp Asp Ala Glu Cys Glu Glu Glu Glu Ile Asp
 930 935 940
 Glu Thr Cys Glu His Glu Tyr Gly Thr Glu Asp Asp Tyr Gln Gly Leu
 945 950 955 960
 Pro Leu Glu Phe Gly Ala Ser Ala Glu Thr Val Arg Val Glu Glu Glu
 965 970 975
 Glu Glu Glu Asp Trp Leu Asp Asp Thr Thr Glu Gln Ser Glu Ile Glu
 980 985 990
 Pro Glu Pro Glu Pro Thr Pro Glu Glu Pro Val Asn Gln Phe Thr Gly
 995 1000 1005
 Tyr Leu Lys Leu Thr Asp Asn Val Ala Ile Lys Cys Val Asp Ile Val
 1010 1015 1020

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Lys Glu Ala Gln Ser Ala Asn Pro Met Val Ile Val Asn Ala Ala Asn
 1025 1030 1035 1040
 Ile His Leu Lys His Gly Gly Gly Val Ala Gly Ala Leu Asn Lys Ala
 1045 1050 1055
 Thr Asn Gly Ala Met Gln Lys Glu Ser Asp Asp Tyr Ile Lys Leu Asn
 1060 1065 1070
 Gly Pro Leu Thr Val Gly Gly Ser Cys Leu Leu Ser Gly His Asn Leu
 1075 1080 1085
 Ala Lys Lys Cys Leu His Val Val Gly Pro Asn Leu Asn Ala Gly Glu
 1090 1095 1100
 Asp Ile Gln Leu Leu Lys Ala Ala Tyr Glu Asn Phe Asn Ser Gln Asp
 1105 1110 1115 1120
 Ile Leu Leu Ala Pro Leu Leu Ser Ala Gly Ile Phe Gly Ala Lys Pro
 1125 1130 1135
 Leu Gln Ser Leu Gln Val Cys Val Gln Thr Val Arg Thr Gln Val Tyr
 1140 1145 1150
 Ile Ala Val Asn Asp Lys Ala Leu Tyr Glu Gln Val Val Met Asp Tyr
 1155 1160 1165
 Leu Asp Asn Leu Lys Pro Arg Val Glu Ala Pro Lys Gln Glu Glu Pro
 1170 1175 1180
 Pro Asn Thr Glu Asp Ser Lys Thr Glu Glu Lys Ser Val Val Gln Lys
 1185 1190 1195 1200
 Pro Val Asp Val Lys Pro Lys Ile Lys Ala Cys Ile Asp Glu Val Thr
 1205 1210 1215
 Thr Thr Leu Glu Glu Thr Lys Phe Leu Thr Asn Lys Leu Leu Leu Phe
 1220 1225 1230
 Ala Asp Ile Asn Gly Lys Leu Tyr His Asp Ser Gln Asn Met Leu Arg
 1235 1240 1245
 Gly Glu Asp Met Ser Phe Leu Glu Lys Asp Ala Pro Tyr Met Val Gly
 1250 1255 1260
 Asp Val Ile Thr Ser Gly Asp Ile Thr Cys Val Val Ile Pro Ser Lys
 1265 1270 1275 1280
 Lys Ala Gly Gly Thr Thr Glu Met Leu Ser Arg Ala Leu Lys Lys Val
 1285 1290 1295
 Pro Val Asp Glu Tyr Ile Thr Thr Tyr Pro Gly Gln Gly Cys Ala Gly
 1300 1305 1310
 Tyr Thr Leu Glu Glu Ala Lys Thr Ala Leu Lys Lys Cys Lys Ser Ala
 1315 1320 1325
 Phe Tyr Val Leu Pro Ser Glu Ala Pro Asn Ala Lys Glu Glu Ile Leu
 1330 1335 1340
 Gly Thr Val Ser Trp Asn Leu Arg Glu Met Leu Ala His Ala Glu Glu
 1345 1350 1355 1360

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Thr Arg Lys Leu Met Pro Ile Cys Met Asp Val Arg Ala Ile Met Ala
1365 1370 1375

Thr Ile Gln Arg Lys Tyr Lys Gly Ile Lys Ile Gln Glu Gly Ile Val
1380 1385 1390

Asp Tyr Gly Val Arg Phe Phe Phe Tyr Thr Ser Lys Glu Pro Val Ala
1395 1400 1405

Ser Ile Ile Thr Lys Leu Asn Ser Leu Asn Glu Pro Leu Val Thr Met
1410 1415 1420

Pro Ile Gly Tyr Val Thr His Gly Phe Asn Leu Glu Glu Ala Ala Arg
1425 1430 1435 1440

Cys Met Arg Ser Leu Lys Ala Pro Ala Val Val Ser Val Ser Ser Pro
1445 1450 1455

Asp Ala Val Thr Thr Tyr Asn Gly Tyr Leu Thr Ser Ser Ser Lys Thr
1460 1465 1470

Ser Glu Glu His Phe Val Glu Thr Val Ser Leu Ala Gly Ser Tyr Arg
1475 1480 1485

Asp Trp Ser Tyr Ser Gly Gln Arg Thr Glu Leu Gly Val Glu Phe Leu
1490 1495 1500

Lys Arg Gly Asp Lys Ile Val Tyr His Thr Leu Glu Ser Pro Val Glu
1505 1510 1515 1520

Phe His Leu Asp Gly Glu Val Leu Ser Leu Asp Lys Leu Lys Ser Leu
1525 1530 1535

Leu Ser Leu Arg Glu Val Lys Thr Ile Lys Val Phe Thr Thr Val Asp
1540 1545 1550

Asn Thr Asn Leu His Thr Gln Leu Val Asp Met Ser Met Thr Tyr Gly
1555 1560 1565

Gln Gln Phe Gly Pro Thr Tyr Leu Asp Gly Ala Asp Val Thr Lys Ile
1570 1575 1580

Lys Pro His Val Asn His Glu Gly Lys Thr Phe Phe Val Leu Pro Ser
1585 1590 1595 1600

Asp Asp Thr Leu Arg Ser Glu Ala Phe Glu Tyr Tyr His Thr Leu Asp
1605 1610 1615

Glu Ser Phe Leu Gly Arg Tyr Met Ser Ala Leu Asn His Thr Lys Lys
1620 1625 1630

Trp Lys Phe Pro Gln Val Gly Gly Leu Thr Ser Ile Lys Trp Ala Asp
1635 1640 1645

Asn Asn Cys Tyr Leu Ser Ser Val Leu Leu Ala Leu Gln Gln Leu Glu
1650 1655 1660

Val Lys Phe Asn Ala Pro Ala Leu Gln Glu Ala Tyr Tyr Arg Ala Arg
1665 1670 1675 1680

Ala Gly Asp Ala Ala Asn Phe Cys Ala Leu Ile Leu Ala Tyr Ser Asn
1685 1690 1695

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Lys Thr Val Gly Glu Leu Gly Asp Val Arg Glu Thr Met Thr His Leu
1700 1705 1710

Leu Gln His Ala Asn Leu Glu Ser Ala Lys Arg Val Leu Asn Val Val
1715 1720 1725

Cys Lys His Cys Gly Gln Lys Thr Thr Thr Leu Thr Gly Val Glu Ala
1730 1735 1740

Val Met Tyr Met Gly Thr Leu Ser Tyr Asp Asn Leu Lys Thr Gly Val
1745 1750 1755 1760

Ser Ile Pro Cys Val Cys Gly Arg Asp Ala Thr Gln Tyr Leu Val Gln
1765 1770 1775

Gln Glu Ser Ser Phe Val Met Met Ser Ala Pro Pro Ala Glu Tyr Lys
1780 1785 1790

Leu Gln Gln Gly Thr Phe Leu Cys Ala Asn Glu Tyr Thr Gly Asn Tyr
1795 1800 1805

Gln Cys Gly His Tyr Thr His Ile Thr Ala Lys Glu Thr Leu Tyr Arg
1810 1815 1820

Ile Asp Gly Ala His Leu Thr Lys Met Ser Glu Tyr Lys Gly Pro Val
1825 1830 1835 1840

Thr Asp Val Phe Tyr Lys Glu Thr Ser Tyr Thr Thr Thr Ile Lys Pro
1845 1850 1855

Val Ser Tyr Lys Leu Asp Gly Val Thr Tyr Thr Glu Ile Glu Pro Lys
1860 1865 1870

Leu Asp Gly Tyr Tyr Lys Lys Asp Asn Ala Tyr Tyr Thr Glu Gln Pro
1875 1880 1885

Ile Asp Leu Val Pro Thr Gln Pro Leu Pro Asn Ala Ser Phe Asp Asn
1890 1895 1900

Phe Lys Leu Thr Cys Ser Asn Thr Lys Phe Ala Asp Asp Leu Asn Gln
1905 1910 1915 1920

Met Thr Gly Phe Thr Lys Pro Ala Ser Arg Glu Leu Ser Val Thr Phe
1925 1930 1935

Phe Pro Asp Leu Asn Gly Asp Val Val Ala Ile Asp Tyr Arg His Tyr
1940 1945 1950

Ser Ala Ser Phe Lys Lys Gly Ala Lys Leu Leu His Lys Pro Ile Val
1955 1960 1965

Trp His Ile Asn Gln Ala Thr Thr Lys Thr Thr Phe Lys Pro Asn Thr
1970 1975 1980

Trp Cys Leu Arg Cys Leu Trp Ser Thr Lys Pro Val Asp Thr Ser Asn
1985 1990 1995 2000

Ser Phe Glu Val Leu Ala Val Glu Asp Thr Gln Gly Met Asp Asn Leu
2005 2010 2015

Ala Cys Glu Ser Gln Gln Pro Thr Ser Glu Glu Val Val Glu Asn Pro
2020 2025 2030

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Thr Ile Gln Lys Glu Val Ile Glu Cys Asp Val Lys Thr Thr Glu Val
2035 2040 2045
Val Gly Asn Val Ile Leu Lys Pro Ser Asp Glu Gly Val Lys Val Thr
2050 2055 2060
Gln Glu Leu Gly His Glu Asp Leu Met Ala Ala Tyr Val Glu Asn Thr
2065 2070 2075 2080
Ser Ile Thr Ile Lys Lys Pro Asn Glu Leu Ser Leu Ala Leu Gly Leu
2085 2090 2095
Lys Thr Ile Ala Thr His Gly Ile Ala Ala Ile Asn Ser Val Pro Trp
2100 2105 2110
Ser Lys Ile Leu Ala Tyr Val Lys Pro Phe Leu Gly Gln Ala Ala Ile
2115 2120 2125
Thr Thr Ser Asn Cys Ala Lys Arg Leu Ala Gln Arg Val Phe Asn Asn
2130 2135 2140
Tyr Met Pro Tyr Val Phe Thr Leu Leu Phe Gln Leu Cys Thr Phe Thr
2145 2150 2155 2160
Lys Ser Thr Asn Ser Arg Ile Arg Ala Ser Leu Pro Thr Thr Ile Ala
2165 2170 2175
Lys Asn Ser Val Lys Ser Val Ala Lys Leu Cys Leu Asp Ala Gly Ile
2180 2185 2190
Asn Tyr Val Lys Ser Pro Lys Phe Ser Lys Leu Phe Thr Ile Ala Met
2195 2200 2205
Trp Leu Leu Leu Leu Ser Ile Cys Leu Gly Ser Leu Ile Cys Val Thr
2210 2215 2220
Ala Ala Phe Gly Val Leu Leu Ser Asn Phe Gly Ala Pro Ser Tyr Cys
2225 2230 2235 2240
Asn Gly Val Arg Glu Leu Tyr Leu Asn Ser Ser Asn Val Thr Thr Met
2245 2250 2255
Asp Phe Cys Glu Gly Ser Phe Pro Cys Ser Ile Cys Leu Ser Gly Leu
2260 2265 2270
Asp Ser Leu Asp Ser Tyr Pro Ala Leu Glu Thr Ile Gln Val Thr Ile
2275 2280 2285
Ser Ser Tyr Lys Leu Asp Leu Thr Ile Leu Gly Leu Ala Ala Glu Trp
2290 2295 2300
Val Leu Ala Tyr Met Leu Phe Thr Lys Phe Phe Tyr Leu Leu Gly Leu
2305 2310 2315 2320
Ser Ala Ile Met Gln Val Phe Phe Gly Tyr Phe Ala Ser His Phe Ile
2325 2330 2335
Ser Asn Ser Trp Leu Met Trp Phe Ile Ile Ser Ile Val Gln Met Ala
2340 2345 2350
Pro Val Ser Ala Met Val Arg Met Tyr Ile Phe Phe Ala Ser Phe Tyr
2355 2360 2365

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Tyr Ile Trp Lys Ser Tyr Val His Ile Met Asp Gly Cys Thr Ser Ser
 2370 2375 2380
 Thr Cys Met Met Cys Tyr Lys Arg Asn Arg Ala Thr Arg Val Glu Cys
 2385 2390 2395 2400
 Thr Thr Ile Val Asn Gly Met Lys Arg Ser Phe Tyr Val Tyr Ala Asn
 2405 2410 2415
 Gly Gly Arg Gly Phe Cys Lys Thr His Asn Trp Asn Cys Leu Asn Cys
 2420 2425 2430
 Asp Thr Phe Cys Thr Gly Ser Thr Phe Ile Ser Asp Glu Val Ala Arg
 2435 2440 2445
 Asp Leu Ser Leu Gln Phe Lys Arg Pro Ile Asn Pro Thr Asp Gln Ser
 2450 2455 2460
 Ser Tyr Ile Val Asp Ser Val Ala Val Lys Asn Gly Ala Leu His Leu
 2465 2470 2475 2480
 Tyr Phe Asp Lys Ala Gly Gln Lys Thr Tyr Glu Arg His Pro Leu Ser
 2485 2490 2495
 His Phe Val Asn Leu Asp Asn Leu Arg Ala Asn Asn Thr Lys Gly Ser
 2500 2505 2510
 Leu Pro Ile Asn Val Ile Val Phe Asp Gly Lys Ser Lys Cys Asp Glu
 2515 2520 2525
 Ser Ala Ser Lys Ser Ala Ser Val Tyr Tyr Ser Gln Leu Met Cys Gln
 2530 2535 2540
 Pro Ile Leu Leu Leu Asp Gln Ala Leu Val Ser Asp Val Gly Asp Ser
 2545 2550 2555 2560
 Thr Glu Val Ser Val Lys Met Phe Asp Ala Tyr Val Asp Thr Phe Ser
 2565 2570 2575
 Ala Thr Phe Ser Val Pro Met Glu Lys Leu Lys Ala Leu Val Ala Thr
 2580 2585 2590
 Ala His Ser Glu Leu Ala Lys Gly Val Ala Leu Asp Gly Val Leu Ser
 2595 2600 2605
 Thr Phe Val Ser Ala Ala Arg Gln Gly Val Val Asp Thr Asp Val Asp
 2610 2615 2620
 Thr Lys Asp Val Ile Glu Cys Leu Lys Leu Ser His His Ser Asp Leu
 2625 2630 2635 2640
 Glu Val Thr Gly Asp Ser Cys Asn Asn Phe Met Leu Thr Tyr Asn Lys
 2645 2650 2655
 Val Glu Asn Met Thr Pro Arg Asp Leu Gly Ala Cys Ile Asp Cys Asn
 2660 2665 2670
 Ala Arg His Ile Asn Ala Gln Val Ala Lys Ser His Asn Val Ser Leu
 2675 2680 2685
 Ile Trp Asn Val Lys Asp Tyr Met Ser Leu Ser Glu Gln Leu Arg Lys
 2690 2695 2700

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Gln Ile Arg Ser Ala Ala Lys Lys Asn Asn Ile Pro Phe Arg Leu Thr
2705 2710 2715 2720

Cys Ala Thr Thr Arg Gln Val Val Asn Val Ile Thr Thr Lys Ile Ser
2725 2730 2735

Leu Lys Gly Gly Lys Ile Val Ser Thr Cys Phe Lys Leu Met Leu Lys
2740 2745 2750

Ala Thr Leu Leu Cys Val Leu Ala Ala Leu Val Cys Tyr Ile Val Met
2755 2760 2765

Pro Val His Thr Leu Ser Ile His Asp Gly Tyr Thr Asn Glu Ile Ile
2770 2775 2780

Gly Tyr Lys Ala Ile Gln Asp Gly Val Thr Arg Asp Ile Ile Ser Thr
2785 2790 2795 2800

Asp Asp Cys Phe Ala Asn Lys His Ala Gly Phe Asp Ala Trp Phe Ser
2805 2810 2815

Gln Arg Gly Gly Ser Tyr Lys Asn Asp Lys Ser Cys Pro Val Val Ala
2820 2825 2830

Ala Ile Ile Thr Arg Glu Ile Gly Phe Ile Val Pro Gly Leu Pro Gly
2835 2840 2845

Thr Val Leu Arg Ala Ile Asn Gly Asp Phe Leu His Phe Leu Pro Arg
2850 2855 2860

Val Phe Ser Ala Val Gly Asn Ile Cys Tyr Thr Pro Ser Lys Leu Ile
2865 2870 2875 2880

Glu Tyr Ser Asp Phe Ala Thr Ser Ala Cys Val Leu Ala Ala Glu Cys
2885 2890 2895

Thr Ile Phe Lys Asp Ala Met Gly Lys Pro Val Pro Tyr Cys Tyr Asp
2900 2905 2910

Thr Asn Leu Leu Glu Gly Ser Ile Ser Tyr Ser Glu Leu Arg Pro Asp
2915 2920 2925

Thr Arg Tyr Val Leu Met Asp Gly Ser Ile Ile Gln Phe Pro Asn Thr
2930 2935 2940

Tyr Leu Glu Gly Ser Val Arg Val Val Thr Thr Phe Asp Ala Glu Tyr
2945 2950 2955 2960

Cys Arg His Gly Thr Cys Glu Arg Ser Glu Val Gly Ile Cys Leu Ser
2965 2970 2975

Thr Ser Gly Arg Trp Val Leu Asn Asn Glu His Tyr Arg Ala Leu Ser
2980 2985 2990

Gly Val Phe Cys Gly Val Asp Ala Met Asn Leu Ile Ala Asn Ile Phe
2995 3000 3005

Thr Pro Leu Val Gln Pro Val Gly Ala Leu Asp Val Ser Ala Ser Val
3010 3015 3020

Val Ala Gly Gly Ile Ile Ala Ile Leu Val Thr Cys Ala Ala Tyr Tyr
3025 3030 3035 3040

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Phe Met Lys Phe Arg Arg Val Phe Gly Glu Tyr Asn His Val Val Ala
3045 3050 3055

Ala Asn Ala Leu Leu Phe Leu Met Ser Phe Thr Ile Leu Cys Leu Val
3060 3065 3070

Pro Ala Tyr Ser Phe Leu Pro Gly Val Tyr Ser Val Phe Tyr Leu Tyr
3075 3080 3085

Leu Thr Phe Tyr Phe Thr Asn Asp Val Ser Phe Leu Ala His Leu Gln
3090 3095 3100

Trp Phe Ala Met Phe Ser Pro Ile Val Pro Phe Trp Ile Thr Ala Ile
3105 3110 3115 3120

Tyr Val Phe Cys Ile Ser Leu Lys His Cys His Trp Phe Phe Asn Asn
3125 3130 3135

Tyr Leu Arg Lys Arg Val Met Phe Asn Gly Val Thr Phe Ser Thr Phe
3140 3145 3150

Glu Glu Ala Ala Leu Cys Thr Phe Leu Leu Asn Lys Glu Met Tyr Leu
3155 3160 3165

Lys Leu Arg Ser Glu Thr Leu Leu Pro Leu Thr Gln Tyr Asn Arg Tyr
3170 3175 3180

Leu Ala Leu Tyr Asn Lys Tyr Lys Tyr Phe Ser Gly Ala Leu Asp Thr
3185 3190 3195 3200

Thr Ser Tyr Arg Glu Ala Ala Cys Cys His Leu Ala Lys Ala Leu Asn
3205 3210 3215

Asp Phe Ser Asn Ser Gly Ala Asp Val Leu Tyr Gln Pro Pro Gln Thr
3220 3225 3230

Ser Ile Thr Ser Ala Val Leu Gln Ser Gly Phe Arg Lys Met Ala Phe
3235 3240 3245

Pro Ser Gly Lys Val Glu Gly Cys Met Val Gln Val Thr Cys Gly Thr
3250 3255 3260

Thr Thr Leu Asn Gly Leu Trp Leu Asp Asp Thr Val Tyr Cys Pro Arg
3265 3270 3275 3280

His Val Ile Cys Thr Ala Glu Asp Met Leu Asn Pro Asn Tyr Glu Asp
3285 3290 3295

Leu Leu Ile Arg Lys Ser Asn His Ser Phe Leu Val Gln Ala Gly Asn
3300 3305 3310

Val Gln Leu Arg Val Ile Gly His Ser Met Gln Asn Cys Leu Leu Arg
3315 3320 3325

Leu Lys Val Asp Thr Ser Asn Pro Lys Thr Pro Lys Tyr Lys Phe Val
3330 3335 3340

Arg Ile Gln Pro Gly Gln Thr Phe Ser Val Leu Ala Cys Tyr Asn Gly
3345 3350 3355 3360

Ser Pro Ser Gly Val Tyr Gln Cys Ala Met Arg Pro Asn His Thr Ile
3365 3370 3375

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Lys Gly Ser Phe Leu Asn Gly Ser Cys Gly Ser Val Gly Phe Asn Ile
3380 3385 3390

Asp Tyr Asp Cys Val Ser Phe Cys Tyr Met His His Met Glu Leu Pro
3395 3400 3405

Thr Gly Val His Ala Gly Thr Asp Leu Glu Gly Lys Phe Tyr Gly Pro
3410 3415 3420

Phe Val Asp Arg Gln Thr Ala Gln Ala Ala Gly Thr Asp Thr Thr Ile
3425 3430 3435 3440

Thr Leu Asn Val Leu Ala Trp Leu Tyr Ala Ala Val Ile Asn Gly Asp
3445 3450 3455

Arg Trp Phe Leu Asn Arg Phe Thr Thr Thr Leu Asn Asp Phe Asn Leu
3460 3465 3470

Val Ala Met Lys Tyr Asn Tyr Glu Pro Leu Thr Gln Asp His Val Asp
3475 3480 3485

Ile Leu Gly Pro Leu Ser Ala Gln Thr Gly Ile Ala Val Leu Asp Met
3490 3495 3500

Cys Ala Ala Leu Lys Glu Leu Leu Gln Asn Gly Met Asn Gly Arg Thr
3505 3510 3515 3520

Ile Leu Gly Ser Thr Ile Leu Glu Asp Glu Phe Thr Pro Phe Asp Val
3525 3530 3535

Val Arg Gln Cys Ser Gly Val Thr Phe Gln Gly Lys Phe Lys Lys Ile
3540 3545 3550

Val Lys Gly Thr His His Trp Met Leu Leu Thr Phe Leu Thr Ser Leu
3555 3560 3565

Leu Ile Leu Val Gln Ser Thr Gln Trp Ser Leu Phe Phe Phe Val Tyr
3570 3575 3580

Glu Asn Ala Phe Leu Pro Phe Thr Leu Gly Ile Met Ala Ile Ala Ala
3585 3590 3595 3600

Cys Ala Met Leu Leu Val Lys His Lys His Ala Phe Leu Cys Leu Phe
3605 3610 3615

Leu Leu Pro Ser Leu Ala Thr Val Ala Tyr Phe Asn Met Val Tyr Met
3620 3625 3630

Pro Ala Ser Trp Val Met Arg Ile Met Thr Trp Leu Glu Leu Ala Asp
3635 3640 3645

Thr Ser Leu Ser Gly Tyr Arg Leu Lys Asp Cys Val Met Tyr Ala Ser
3650 3655 3660

Ala Leu Val Leu Leu Ile Leu Met Thr Ala Arg Thr Val Tyr Asp Asp
3665 3670 3675 3680

Ala Ala Arg Arg Val Trp Thr Leu Met Asn Val Ile Thr Leu Val Tyr
3685 3690 3695

Lys Val Tyr Tyr Gly Asn Ala Leu Asp Gln Ala Ile Ser Met Trp Ala
3700 3705 3710

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Leu Val Ile Ser Val Thr Ser Asn Tyr Ser Gly Val Val Thr Thr Ile
3715 3720 3725

Met Phe Leu Ala Arg Ala Ile Val Phe Val Cys Val Glu Tyr Tyr Pro
3730 3735 3740

Leu Leu Phe Ile Thr Gly Asn Thr Leu Gln Cys Ile Met Leu Val Tyr
3745 3750 3755 3760

Cys Phe Leu Gly Tyr Cys Cys Cys Cys Tyr Phe Gly Leu Phe Cys Leu
3765 3770 3775

Leu Asn Arg Tyr Phe Arg Leu Thr Leu Gly Val Tyr Asp Tyr Leu Val
3780 3785 3790

Ser Thr Gln Glu Phe Arg Tyr Met Asn Ser Gln Gly Leu Leu Pro Pro
3795 3800 3805

Lys Ser Ser Ile Asp Ala Phe Lys Leu Asn Ile Lys Leu Leu Gly Ile
3810 3815 3820

Gly Gly Lys Pro Cys Ile Lys Val Ala Thr Val Gln Ser Lys Met Ser
3825 3830 3835 3840

Asp Val Lys Cys Thr Ser Val Val Leu Leu Ser Val Leu Gln Gln Leu
3845 3850 3855

Arg Val Glu Ser Ser Ser Lys Leu Trp Ala Gln Cys Val Gln Leu s
3860 3865 3870

Asn Asp Ile Leu Leu Ala Lys Asp Thr Thr Glu Ala Phe Glu Lys Met
3875 3880 3885

Val Ser Leu Leu Ser Val Leu Leu Ser Met Gln Gly Ala Val Asp Ile
3890 3895 3900

Asn Arg Leu Cys Glu Glu Met Leu Asp Asn Arg Ala Thr Leu Gln Ala
3905 3910 3915 3920

Ile Ala Ser Glu Phe Ser Ser Leu Pro Ser Tyr Ala Ala Tyr Ala Thr
3925 3930 3935

Ala Gln Glu Ala Tyr Glu Gln Ala Val Ala Asn Gly Asp Ser Glu Val
3940 3945 3950

Val Leu Lys Lys Leu Lys Lys Ser Leu Asn Val Ala Lys Ser Glu Phe
3955 3960 3965

Asp Arg Asp Ala Ala Met Gln Arg Lys Leu Glu Lys Met Ala Asp Gln
3970 3975 3980

Ala Met Thr Gln Met Tyr Lys Gln Ala Arg Ser Glu Asp Lys Arg Ala
3985 3990 3995 4000

Lys Val Thr Ser Ala Met Gln Thr Met Leu Phe Thr Met Leu Arg Lys
4005 4010 4015

Leu Asp Asn Asp Ala Leu Asn Asn Ile Ile Asn Asn Ala Arg Asp Gly
4020 4025 4030

Cys Val Pro Leu Asn Ile Ile Pro Leu Thr Thr Ala Ala Lys Leu Met
4035 4040 4045

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Val Val Val Pro Asp Tyr Gly Thr Tyr Lys Asn Thr Cys Asp Gly Asn
4050 4055 4060

Thr Phe Thr Tyr Ala Ser Ala Leu Trp Glu Ile Gln Gln Val Val Asp
4065 4070 4075 4080

Ala Asp Ser Lys Ile Val Gln Leu Ser Glu Ile Asn Met Asp Asn Ser
4085 4090 4095

Pro Asn Leu Ala Trp Pro Leu Ile Val Thr Ala Leu Arg Ala Asn Ser
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Ala Val Lys Leu Gln Asn Asn Glu Leu Ser Pro Val Ala Leu Arg Gln
4115 4120 4125

Met Ser Cys Ala Ala Gly Thr Thr Gln Thr Ala Cys Thr Asp Asp Asn
4130 4135 4140

Ala Leu Ala Tyr Tyr Asn Asn Ser Lys Gly Gly Arg Phe Val Leu Ala
4145 4150 4155 4160

Leu Leu Ser Asp His Gln Asp Leu Lys Trp Ala Arg Phe Pro Lys Ser
4165 4170 4175

Asp Gly Thr Gly Thr Ile Tyr Thr Glu Leu Glu Pro Pro Cys Arg Phe
4180 4185 4190

Val Thr Asp Thr Pro Lys Gly Pro Lys Val Lys Tyr Leu Tyr Phe Ile
4195 4200 4205

Lys Gly Leu Asn Asn Leu Asn Arg Gly Met Val Leu Gly Ser Leu Ala
4210 4215 4220

Ala Thr Val Arg Leu Gln Ala Gly Asn Ala Thr Glu Val Pro Ala Asn
4225 4230 4235 4240

Ser Thr Val Leu Ser Phe Cys Ala Phe Ala Val Asp Pro Ala Lys Ala
4245 4250 4255

Tyr Lys Asp Tyr Leu Ala Ser Gly Gly Gln Pro Ile Thr Asn Cys Val
4260 4265 4270

Lys Met Leu Cys Thr His Thr Gly Thr Gly Gln Ala Ile Thr Val Thr
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Pro Glu Ala Asn Met Asp Gln Glu Ser Phe Gly Gly Ala Ser Cys Cys
4290 4295 4300

Leu Tyr Cys Arg Cys His Ile Asp His Pro Asn Pro Lys Gly Phe Cys
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Asp Leu Lys Gly Lys Tyr Val Gln Ile Pro Thr Thr Cys Ala Asn Asp
4325 4330 4335

Pro Val Gly Phe Thr Leu Arg Asn Thr Val Cys Thr Val Cys Gly Met
4340 4345 4350

Trp Lys Gly Tyr Gly Cys Ser Cys Asp Gln Leu Arg Glu Pro Leu Met
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Gln Ser Ala Asp Ala Ser Thr Xaa Xaa Xaa Gly Val Ser Ala Ala Arg
4370 4375 4380

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 Phe Asp Ile Tyr Asn Glu Lys Val Ala Gly Phe Ala Lys Phe Leu Lys
 4405 4410 4415
 Thr Asn Cys Cys Arg Phe Gln Glu Lys Asp Glu Glu Gly Asn Leu Leu
 4420 4425 4430
 Asp Ser Tyr Phe Val Val Lys Arg His Thr Met Ser Asn Tyr Gln His
 4435 4440 4445
 Glu Glu Thr Ile Tyr Asn Leu Val Lys Asp Cys Pro Ala Val Ala Val
 4450 4455 4460
 His Asp Phe Phe Lys Phe Arg Val Asp Gly Asp Met Val Pro His Ile
 4465 4470 4475 4480
 Ser Arg Gln Arg Leu Thr Lys Tyr Thr Met Ala Asp Leu Val Tyr Ala
 4485 4490 4495
 Leu Arg His Phe Asp Glu Gly Asn Cys Asp Thr Leu Lys Glu Ile Leu
 4500 4505 4510
 Val Thr Tyr Asn Cys Cys Asp Asp Asp Tyr Phe Asn Lys Lys Asp Trp
 4515 4520 4525
 Tyr Asp Phe Val Glu Asn Pro Asp Ile Leu Arg Val Tyr Ala Asn Leu
 4530 4535 4540
 Gly Glu Arg Val Arg Gln Ser Leu Leu Lys Thr Val Gln Phe Cys Asp
 4545 4550 4555 4560
 Ala Met Arg Asp Ala Gly Ile Val Gly Val Leu Thr Leu Asp Asn Gln
 4565 4570 4575
 Asp Leu Asn Gly Asn Trp Tyr Asp Phe Gly Asp Phe Val Gln Val Ala
 4580 4585 4590
 Pro Gly Cys Gly Val Pro Ile Val Asp Ser Tyr Tyr Ser Leu Leu Met
 4595 4600 4605
 Pro Ile Leu Thr Leu Thr Arg Ala Leu Ala Ala Glu Ser His Met Asp
 4610 4615 4620
 Ala Asp Leu Ala Lys Pro Leu Ile Lys Trp Asp Leu Leu Lys Tyr Asp
 4625 4630 4635 4640
 Phe Thr Glu Glu Arg Leu Cys Leu Phe Asp Arg Tyr Phe Lys Tyr Trp
 4645 4650 4655
 Asp Gln Thr Tyr His Pro Asn Cys Ile Asn Cys Leu Asp Asp Arg Cys
 4660 4665 4670
 Ile Leu His Cys Ala Asn Phe Asn Val Leu Phe Ser Thr Val Phe Pro
 4675 4680 4685
 Pro Thr Ser Phe Gly Pro Leu Val Arg Lys Ile Phe Val Asp Gly Val
 4690 4695 4700
 Pro Phe Val Val Ser Thr Gly Tyr His Phe Arg Glu Leu Gly Val Val
 4705 4710 4715 4720

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His Asn Gln Asp Val Asn Leu His Ser Ser Arg Leu Ser Phe Lys Glu
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Leu Leu Val Tyr Ala Ala Asp Pro Ala Met His Ala Ala Ser Gly Asn
4740 4745 4750

Leu Leu Leu Asp Lys Arg Thr Thr Cys Phe Ser Val Ala Ala Leu Thr
4755 4760 4765

Asn Asn Val Ala Phe Gln Thr Val Lys Pro Gly Asn Phe Asn Lys Asp
4770 4775 4780

Phe Tyr Asp Phe Ala Val Ser Lys Gly Phe Phe Lys Glu Gly Ser Ser
4785 4790 4795 4800

Val Glu Leu Lys His Phe Phe Phe Ala Gln Asp Gly Asn Ala Ala Ile
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Ser Asp Tyr Asp Tyr Tyr Arg Tyr Asn Leu Pro Thr Met Cys Asp Ile
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Arg Gln Leu Leu Phe Val Val Glu Val Val Asp Lys Tyr Phe Asp Cys
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Tyr Asp Gly Gly Cys Ile Asn Ala Asn Gln Val Ile Val Asn Asn Leu
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Asp Lys Ser Ala Gly Phe Pro Phe Asn Lys Trp Gly Lys Ala Arg Leu
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Tyr Tyr Asp Ser Met Ser Tyr Glu Asp Gln Asp Ala Leu Phe Ala Tyr
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Thr Lys Arg Asn Val Ile Pro Thr Ile Thr Gln Met Asn Leu Lys Tyr
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Ala Ile Ser Ala Lys Asn Arg Ala Arg Thr Val Ala Gly Val Ser Ile
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Cys Ser Thr Met Thr Asn Arg Gln Phe His Gln Lys Leu Leu Lys Ser
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Ile Ala Ala Thr Arg Gly Ala Thr Val Val Ile Gly Thr Ser Lys Phe
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Tyr Gly Gly Trp His Asn Met Leu Lys Thr Val Tyr Ser Asp Val Glu
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Thr Pro His Leu Met Gly Trp Asp Tyr Pro Lys Cys Asp Arg Ala Met
4980 4985 4990

Pro Asn Met Leu Arg Ile Met Ala Ser Leu Val Leu Ala Arg Lys His
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Asn Thr Cys Cys Asn Leu Ser His Arg Phe Tyr Arg Leu Ala Asn Glu
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Cys Ala Gln Val Leu Ser Glu Met Val Met Cys Gly Gly Ser Leu Tyr
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Val Lys Pro Gly Gly Thr Ser Ser Gly Asp Ala Thr Thr Ala Tyr Ala
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SEQLIST-20480.TXT

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Leu Leu Ser Thr Asp Gly Asn Lys Ile Ala Asp Lys Tyr Val Arg Asn
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Leu Gln His Arg Leu Tyr Glu Cys Leu Tyr Arg Asn Arg Asp Val Asp
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His Glu Phe Val Asp Glu Phe Tyr Ala Tyr Leu Arg Lys His Phe Ser
5105 5110 5115 5120

Met Met Ile Leu Ser Asp Asp Ala Val Val Cys Tyr Asn Ser Asn Tyr
5125 5130 5135

Ala Ala Gln Gly Leu Val Ala Ser Ile Lys Asn Phe Lys Ala Val Leu
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Tyr Tyr Gln Asn Asn Val Phe Met Ser Glu Ala Lys Cys Trp Thr Glu
5155 5160 5165

Thr Asp Leu Thr Lys Gly Pro His Glu Phe Cys Ser Gln His Thr Met
5170 5175 5180

Leu Val Lys Gln Gly Asp Asp Tyr Val Tyr Leu Pro Tyr Pro Asp Pro
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Ser Arg Ile Leu Gly Ala Gly Cys Phe Val Asp Asp Ile Val Lys Thr
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Asp Gly Thr Leu Met Ile Glu Arg Phe Val Ser Leu Ala Ile Asp Ala
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Tyr Pro Leu Thr Lys His Pro Asn Gln Glu Tyr Ala Asp Val Phe His
5235 5240 5245

Leu Tyr Leu Gln Tyr Ile Arg Lys Leu His Asp Glu Leu Thr Gly His
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Met Leu Asp Met Tyr Ser Val Met Leu Thr Asn Asp Asn Thr Ser Arg
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Tyr Trp Glu Pro Glu Phe Tyr Glu Ala Met Tyr Thr Pro His Thr Val
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Leu Gln Ala Val Gly Ala Cys Val Leu Cys Asn Ser Gln Thr Ser Leu
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Arg Cys Gly Ala Cys Ile Arg Arg Pro Phe Leu Cys Cys Lys Cys Cys
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Tyr Asp His Val Ile Ser Thr Ser His Lys Leu Val Leu Ser Val Asn
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Pro Tyr Val Cys Asn Ala Pro Gly Cys Asp Val Thr Asp Val Thr Gln
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Leu Tyr Leu Gly Gly Met Ser Tyr Tyr Cys Lys Ser His Lys Pro Pro
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Ile Ser Phe Pro Leu Cys Ala Asn Gly Gln Val Phe Gly Leu Tyr Lys
5380 5385 5390

SEQLIST-20480.TXT

Asn Thr Cys Val Gly Ser Asp Asn Val Thr Asp Phe Asn Ala Ile Ala
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Thr Cys Asp Trp Thr Asn Ala Gly Asp Tyr Ile Leu Ala Asn Thr Cys
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Thr Glu Arg Leu Lys Leu Phe Ala Ala Glu Thr Leu Lys Ala Thr Glu
5425 5430 5435 5440

Glu Thr Phe Lys Leu Ser Tyr Gly Ile Ala Thr Val Arg Glu Val Leu
5445 5450 5455

Ser Asp Arg Glu Leu His Leu Ser Trp Glu Val Gly Lys Pro Arg Pro
5460 5465 5470

Pro Leu Asn Arg Asn Tyr Val Phe Thr Gly Tyr Arg Val Thr Lys Asn
5475 5480 5485

Ser Lys Val Gln Ile Gly Glu Tyr Thr Phe Glu Lys Gly Asp Tyr Gly
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Asp Ala Val Val Tyr Arg Gly Thr Thr Thr Tyr Lys Leu Asn Val Gly
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Asp Tyr Phe Val Leu Thr Ser His Thr Val Met Pro Leu Ser Ala Pro
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Thr Leu Val Pro Gln Glu His Tyr Val Arg Ile Thr Gly Leu Tyr Pro
5540 5545 5550

Thr Leu Asn Ile Ser Asp Glu Phe Ser Ser Asn Val Ala Asn Tyr Gln
5555 5560 5565

Lys Val Gly Met Gln Lys Tyr Ser Thr Leu Gln Gly Pro Pro Gly Thr
5570 5575 5580

Gly Lys Ser His Phe Ala Ile Gly Leu Ala Leu Tyr Tyr Pro Ser Ala
5585 5590 5595 5600

Arg Ile Val Tyr Thr Ala Cys Ser His Ala Ala Val Asp Ala Leu Cys
5605 5610 5615

Glu Lys Ala Leu Lys Tyr Leu Pro Ile Asp Lys Cys Ser Arg Ile Ile
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Pro Ala Arg Ala Arg Val Glu Cys Phe Asp Lys Phe Lys Val Asn Ser
5635 5640 5645

Thr Leu Glu Gln Tyr Val Phe Cys Thr Val Asn Ala Leu Pro Glu Thr
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Thr Ala Asp Ile Val Val Phe Asp Glu Ile Ser Met Ala Thr Asn Tyr
5665 5670 5675 5680

Asp Leu Ser Val Val Asn Ala Arg Leu Arg Ala Lys His Tyr Val Tyr
5685 5690 5695

Ile Gly Asp Pro Ala Gln Leu Pro Ala Pro Arg Thr Leu Leu Thr Lys
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Gly Thr Leu Glu Pro Glu Tyr Phe Asn Ser Val Cys Arg Leu Met Lys
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SEQLIST-20480.TXT

Thr Ile Gly Pro Asp Met Phe Leu Gly Thr Cys Arg Arg Cys Pro Ala
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Glu Ile Val Asp Thr Val Ser Ala Leu Val Tyr Asp Asn Lys Leu Lys
5745 5750 5755 5760

Ala His Lys Asp Lys Ser Ala Gln Cys Phe Lys Met Phe Tyr Lys Gly
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Val Ile Thr His Asp Val Ser Ser Ala Ile Asn Arg Pro Gln Ile Gly
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Val Val Arg Glu Phe Leu Thr Arg Asn Pro Ala Trp Arg Lys Ala Val
5795 5800 5805

Phe Ile Ser Pro Tyr Asn Ser Gln Asn Ala Val Ala Ser Lys Ile Leu
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Gly Leu Pro Thr Gln Thr Val Asp Ser Ser Gln Gly Ser Glu Tyr Asp
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Tyr Val Ile Phe Thr Gln Thr Thr Glu Thr Ala His Ser Cys Asn Val
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Asn Arg Phe Asn Val Ala Ile Thr Arg Ala Lys Ile Gly Ile Leu Cys
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Ile Met Ser Asp Arg Asp Leu Tyr Asp Lys Leu Gln Phe Thr Ser Leu
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Gly Leu Phe Lys Asp Cys Ser Lys Ile Ile Thr Gly Leu His Pro Thr
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Gln Ala Pro Thr His Leu Ser Val Asp Ile Lys Phe Lys Thr Glu Gly
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Leu Cys Val Asp Ile Pro Gly Ile Pro Lys Asp Met Thr Tyr Arg Arg
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Leu Ile Ser Met Met Gly Phe Lys Met Asn Tyr Gln Val Asn Gly Tyr
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Pro Asn Met Phe Ile Thr Arg Glu Glu Ala Ile Arg His Val Arg Ala
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Trp Ile Gly Phe Asp Val Glu Gly Cys His Ala Thr Arg Asp Ala Val
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Gly Thr Asn Leu Pro Leu Gln Leu Gly Phe Ser Thr Gly Val Asn Leu
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Val Ala Val Pro Thr Gly Tyr Val Asp Thr Glu Asn Asn Thr Glu Phe
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Thr Arg Val Asn Ala Lys Pro Pro Pro Gly Asp Gln Phe Lys His Leu
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Ile Pro Leu Met Tyr Lys Gly Leu Pro Trp Asn Val Val Arg Ile Lys
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SEQLIST-20480.TXT

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Phe Val Lys Ile Gly Pro Glu Arg Thr Cys Cys Leu Cys Asp Lys Arg
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Ala Thr Cys Phe Ser Thr Ser Ser Asp Thr Tyr Ala Cys Trp Asn His
6115 6120 6125

Ser Val Gly Phe Asp Tyr Val Tyr Asn Pro Phe Met Ile Asp Val Gln
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Gln Trp Gly Phe Thr Gly Asn Leu Gln Ser Asn His Asp Gln His Cys
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Gln Val His Gly Asn Ala His Val Ala Ser Cys Asp Ala Ile Met Thr
6165 6170 6175

Arg Cys Leu Ala Val His Glu Cys Phe Val Lys Arg Val Asp Trp Ser
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Val Glu Tyr Pro Ile Ile Gly Asp Glu Leu Arg Val Asn Ser Ala Cys
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Arg Lys Val Gln His Met Val Val Lys Ser Ala Leu Leu Ala Asp Lys
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Phe Pro Val Leu His Asp Ile Gly Asn Pro Lys Ala Ile Lys Cys Val
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Pro Gln Ala Glu Val Glu Trp Lys Phe Tyr Asp Ala Gln Pro Cys Ser
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Asp Lys Ala Tyr Lys Ile Glu Glu Leu Phe Tyr Ser Tyr Ala Thr His
6260 6265 6270

His Asp Lys Phe Thr Asp Gly Val Cys Leu Phe Trp Asn Cys Asn Val
6275 6280 6285

Asp Arg Tyr Pro Ala Asn Ala Ile Val Cys Arg Phe Asp Thr Arg Val
6290 6295 6300

Leu Ser Asn Leu Asn Leu Pro Gly Cys Asp Gly Gly Ser Leu Tyr Val
6305 6310 6315 6320

Asn Lys His Ala Phe His Thr Pro Ala Phe Asp Lys Ser Ala Phe Thr
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Asn Leu Lys Gln Leu Pro Phe Phe Tyr Tyr Ser Asp Ser Pro Cys Glu
6340 6345 6350

Ser His Gly Lys Gln Val Val Ser Asp Ile Asp Tyr Val Pro Leu Lys
6355 6360 6365

Ser Ala Thr Cys Ile Thr Arg Cys Asn Leu Gly Gly Ala Val Cys Arg
6370 6375 6380

His His Ala Asn Glu Tyr Arg Gln Tyr Leu Asp Ala Tyr Asn Met Met
6385 6390 6395 6400

SEQLIST-20480.TXT

Ile Ser Ala Gly Phe Ser Leu Trp Ile Tyr Lys Gln Phe Asp Thr Tyr
6405 6410 6415

Asn Leu Trp Asn Thr Phe Thr Arg Leu Gln Ser Leu Glu Asn Val Ala
6420 6425 6430

Tyr Asn Val Val Asn Lys Gly His Phe Asp Gly His Ala Gly Glu Ala
6435 6440 6445

Pro Val Ser Ile Ile Asn Asn Ala Val Tyr Thr Lys Val Asp Gly Ile
6450 6455 6460

Asp Val Glu Ile Phe Glu Asn Lys Thr Thr Leu Pro Val Asn Val Ala
6465 6470 6475 6480

Phe Glu Leu Trp Ala Lys Arg Asn Ile Lys Pro Val Pro Glu Ile Lys
6485 6490 6495

Ile Leu Asn Asn Leu Gly Val Asp Ile Ala Ala Asn Thr Val Ile Trp
6500 6505 6510

Asp Tyr Lys Arg Glu Ala Pro Ala His Val Ser Thr Ile Gly Val Cys
6515 6520 6525

Thr Met Thr Asp Ile Ala Lys Lys Pro Thr Glu Ser Ala Cys Ser Ser
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Leu Thr Val Leu Phe Asp Gly Arg Val Glu Gly Gln Val Asp Leu Phe
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Arg Asn Ala Arg Asn Gly Val Leu Ile Thr Glu Gly Ser Val Lys Gly
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Leu Thr Pro Ser Lys Gly Pro Ala Gln Ala Ser Val Asn Gly Val Thr
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Leu Ile Gly Glu Ser Val Lys Thr Gln Phe Asn Tyr Phe Lys Lys Val
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Asp Gly Ile Ile Gln Gln Leu Pro Glu Thr Tyr Phe Thr Gln Ser Arg
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Glu Leu Ala Met Asp Glu Phe Ile Gln Arg Tyr Lys Leu Glu Gly Tyr
6645 6650 6655

Ala Phe Glu His Ile Val Tyr Gly Asp Phe Ser His Gly Gln Leu Gly
6660 6665 6670

Gly Leu His Leu Met Ile Gly Leu Ala Lys Arg Ser Gln Asp Ser Pro
6675 6680 6685

Leu Lys Leu Glu Asp Phe Ile Pro Met Asp Ser Thr Val Lys Asn Tyr
6690 6695 6700

Phe Ile Thr Asp Ala Gln Thr Gly Ser Ser Lys Cys Val Cys Ser Val
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Ile Asp Leu Leu Leu Asp Asp Phe Val Glu Ile Ile Lys Ser Gln Asp
6725 6730 6735

SEQLIST-20480.TXT

Leu Ser Val Ile Ser Lys Val Val Lys Val Thr Ile Asp Tyr Ala Glu
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Ile Ser Phe Met Leu Trp Cys Lys Asp Gly His Val Glu Thr Phe Tyr
6755 6760 6765

Pro Lys Leu Gln Ala Ser Arg Ala Trp Gln Pro Gly Val Ala Met Pro
6770 6775 6780

Asn Leu Tyr Lys Met Gln Arg Met Leu Leu Glu Lys Cys Asp Leu Gln
6785 6790 6795 6800

Asn Tyr Gly Glu Asn Ala Val Ile Pro Lys Gly Ile Met Met Asn Val
6805 6810 6815

Ala Lys Tyr Thr Gln Leu Cys Gln Tyr Leu Asn Thr Leu Thr Leu Ala
6820 6825 6830

Val Pro Tyr Asn Met Arg Val Ile His Phe Gly Ala Gly Ser Asp Lys
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Gly Val Ala Pro Gly Thr Ala Val Leu Arg Gln Trp Leu Pro Thr Gly
6850 6855 6860

Thr Leu Leu Val Asp Ser Asp Leu Asn Asp Phe Val Ser Asp Ala Tyr
6865 6870 6875 6880

Ser Thr Leu Ile Gly Asp Cys Ala Thr Val His Thr Ala Asn Lys Trp
6885 6890 6895

Asp Leu Ile Ile Ser Asp Met Tyr Asp Pro Arg Thr Lys His Val Thr
6900 6905 6910

Lys Glu Asn Asp Ser Lys Glu Gly Phe Phe Thr Tyr Leu Cys Gly Phe
6915 6920 6925

Ile Lys Gln Lys Leu Ala Leu Gly Gly Ser Ile Ala Val Lys Ile Thr
6930 6935 6940

Glu His Ser Trp Asn Ala Asp Leu Tyr Lys Leu Met Gly His Phe Ser
6945 6950 6955 6960

Trp Trp Thr Ala Phe Val Thr Asn Val Asn Ala Ser Ser Ser Glu Ala
6965 6970 6975

Phe Leu Ile Gly Ala Asn Tyr Leu Gly Lys Pro Lys Glu Gln Ile Asp
6980 6985 6990

Gly Tyr Thr Met His Ala Asn Tyr Ile Phe Trp Arg Asn Thr Asn Pro
6995 7000 7005

Ile Gln Leu Ser Ser Tyr Ser Leu Phe Asp Met Ser Lys Phe Pro Leu
7010 7015 7020

Lys Leu Arg Gly Thr Ala Val Met Ser Leu Lys Glu Asn Gln Ile Asn
7025 7030 7035 7040

Asp Met Ile Tyr Ser Leu Leu Glu Lys Gly Arg Leu Ile Ile Arg Glu
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Asn Asn Arg Val Val Val Ser Ser Asp Ile Leu Val Asn Asn
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SEQLIST-20480.TXT

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 35 40 45
 Gly Thr Cys Gly Leu Val Glu Leu Glu Lys Gly Val Leu Pro Gln Leu
 50 55 60
 Glu Gln Pro Tyr Val Phe Ile Lys Arg Ser Asp Ala Leu Ser Thr Asn
 65 70 75 80
 His Gly His Lys Val Val Glu Leu Val Ala Glu Met Asp Gly Ile Gln
 85 90 95
 Tyr Gly Arg Ser Gly Ile Thr Leu Gly Val Leu Val Pro His Val Gly
 100 105 110
 Glu Thr Pro Ile Ala Tyr Arg Asn Val Leu Leu Arg Lys Asn Gly Asn
 115 120 125
 Lys Gly Ala Gly Gly His Ser Tyr Gly Ile Asp Leu Lys Ser Tyr Asp
 130 135 140
 Leu Gly Asp Glu Leu Gly Thr Asp Pro Ile Glu Asp Tyr Glu Gln Asn
 145 150 155 160
 Trp Asn Thr Lys His Gly Ser Gly Ala Leu Arg Glu Leu Thr Arg Glu
 165 170 175
 Leu Asn Gly Gly Ala Val Thr Arg Tyr Val Asp Asn Asn Phe Cys Gly
 180 185 190
 Pro Asp Gly Tyr Pro Leu Asp Cys Ile Lys Asp Phe Leu Ala Arg Ala
 195 200 205
 Gly Lys Ser Met Cys Thr Leu Ser Glu Gln Leu Asp Tyr Ile Glu Ser
 210 215 220
 Lys Arg Gly Val Tyr Cys Cys Arg Asp His Glu His Glu Ile Ala Trp
 225 230 235 240
 Phe Thr Glu Arg Ser Asp Lys Ser Tyr Glu His Gln Thr Pro Phe Glu
 245 250 255
 Ile Lys Ser Ala Lys Lys Phe Asp Thr Phe Lys Gly Glu Cys Pro Lys
 260 265 270
 Phe Val Phe Pro Leu Asn Ser Lys Val Lys Val Ile Gln Pro Arg Val

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275	280	285
Glu Lys Lys Lys Thr Glu Gly Phe Met Gly Arg Ile Arg Ser Val Tyr	290	300
Pro Val Ala Ser Pro Gln Glu Cys Asn Asn Met His Leu Ser Thr Leu	305	315
Met Lys Cys Asn His Cys Asp Glu Val Ser Trp Gln Thr Cys Asp Phe	325	335
Leu Lys Ala Thr Cys Glu His Cys Gly Thr Glu Asn Leu Val Ile Glu	340	350
Gly Pro Thr Thr Cys Gly Tyr Leu Pro Thr Asn Ala Val Val Lys Met	355	365
Pro Cys Pro Ala Cys Gln Asp Pro Glu Ile Gly Pro Glu His Ser Val	370	380
Ala Asp Tyr His Asn His Ser Asn Ile Glu Thr Arg Leu Arg Lys Gly	385	395
Gly Arg Thr Arg Cys Phe Gly Gly Cys Val Phe Ala Tyr Val Gly Cys	405	415
Tyr Asn Lys Arg Ala Tyr Trp Val Pro Arg Ala Ser Ala Asp Ile Gly	420	430
Ser Gly His Thr Gly Ile Thr Gly Asp Asn Val Glu Thr Leu Asn Glu	435	445
Asp Leu Leu Glu Ile Leu Ser Arg Glu Arg Val Asn Ile Asn Ile Val	450	460
Gly Asp Phe His Leu Asn Glu Glu Val Ala Ile Ile Leu Ala Ser Phe	465	475
Ser Ala Ser Thr Ser Ala Phe Ile Asp Thr Ile Lys Ser Leu Asp Tyr	485	495
Lys Ser Phe Lys Thr Ile Val Glu Ser Cys Gly Asn Tyr Lys Val Thr	500	510
Lys Gly Lys Pro Val Lys Gly Ala Trp Asn Ile Gly Gln Gln Arg Ser	515	525
Val Leu Thr Pro Leu Cys Gly Phe Pro Ser Gln Ala Ala Gly Val Ile	530	540
Arg Ser Ile Phe Ala Arg Thr Leu Asp Ala Ala Asn His Ser Ile Pro	545	555
Asp Leu Gln Arg Ala Ala Val Thr Ile Leu Asp Gly Ile Ser Glu Gln	565	575
Ser Leu Arg Leu Val Asp Ala Met Val Tyr Thr Ser Asp Leu Leu Thr	580	590
Asn Ser Val Ile Ile Met Ala Tyr Val Thr Gly Gly Leu Val Gln Gln	595	605
Thr Ser Gln Trp Leu Ser Asn Leu Leu Gly Thr Thr Val Glu Lys Leu		

620

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 Pro Leu Glu Phe Gly Ala Ser Ala Glu Thr Val Arg Val Glu Glu Glu
 965 970 975
 Glu Glu Glu Asp Trp Leu Asp Asp Thr Thr Glu Gln Ser Glu Ile Glu
 980 985 990
 Pro Glu Pro Glu Pro Thr Pro Glu Glu Pro Val Asn Gln Phe Thr Gly
 995 1000 1005
 Tyr Leu Lys Leu Thr Asp Asn Val Ala Ile Lys Cys Val Asp Ile Val
 1010 1015 1020
 Lys Glu Ala Gln Ser Ala Asn Pro Met Val Ile Val Asn Ala Ala Asn
 1025 1030 1035 1040
 Ile His Leu Lys His Gly Gly Gly Val Ala Gly Ala Leu Asn Lys Ala
 1045 1050 1055
 Thr Asn Gly Ala Met Gln Lys Glu Ser Asp Asp Tyr Ile Lys Leu Asn
 1060 1065 1070
 Gly Pro Leu Thr Val Gly Gly Ser Cys Leu Leu Ser Gly His Asn Leu
 1075 1080 1085
 Ala Lys Lys Cys Leu His Val Val Gly Pro Asn Leu Asn Ala Gly Glu
 1090 1095 1100
 Asp Ile Gln Leu Leu Lys Ala Ala Tyr Glu Asn Phe Asn Ser Gln Asp
 1105 1110 1115 1120
 Ile Leu Leu Ala Pro Leu Leu Ser Ala Gly Ile Phe Gly Ala Lys Pro
 1125 1130 1135
 Leu Gln Ser Leu Gln Val Cys Val Gln Thr Val Arg Thr Gln Val Tyr
 1140 1145 1150
 Ile Ala Val Asn Asp Lys Ala Leu Tyr Glu Gln Val Val Met Asp Tyr
 1155 1160 1165
 Leu Asp Asn Leu Lys Pro Arg Val Glu Ala Pro Lys Gln Glu Glu Pro
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 Pro Asn Thr Glu Asp Ser Lys Thr Glu Glu Lys Ser Val Val Gln Lys
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 Pro Val Asp Val Lys Pro Lys Ile Lys Ala Cys Ile Asp Glu Val Thr
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 Thr Thr Leu Glu Glu Thr Lys Phe Leu Thr Asn Lys Leu Leu Leu Phe
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 Ala Asp Ile Asn Gly Lys Leu Tyr His Asp Ser Gln Asn Met Leu Arg
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 Gly Glu Asp Met Ser Phe Leu Glu Lys Asp Ala Pro Tyr Met Val Gly
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 Asp Val Ile Thr Ser Gly Asp Ile Thr Cys Val Val Ile Pro Ser Lys
 1265 1270 1275 1280
 Lys Ala Gly Gly Thr Thr Glu Met Leu Ser Arg Ala Leu Lys Lys Val

SEQLIST-20480.TXT

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Tyr Thr Leu Glu Glu Ala Lys Thr Ala Leu Lys Lys Cys Lys Ser Ala		
1315	1320	1325
Phe Tyr Val Leu Pro Ser Glu Ala Pro Asn Ala Lys Glu Glu Ile Leu		
1330	1335	1340
Gly Thr Val Ser Trp Asn Leu Arg Glu Met Leu Ala His Ala Glu Glu		
1345	1350	1355
Thr Arg Lys Leu Met Pro Ile Cys Met Asp Val Arg Ala Ile Met Ala		
1365	1370	1375
Thr Ile Gln Arg Lys Tyr Lys Gly Ile Lys Ile Gln Glu Gly Ile Val		
1380	1385	1390
Asp Tyr Gly Val Arg Phe Phe Phe Tyr Thr Ser Lys Glu Pro Val Ala		
1395	1400	1405
Ser Ile Ile Thr Lys Leu Asn Ser Leu Asn Glu Pro Leu Val Thr Met		
1410	1415	1420
Pro Ile Gly Tyr Val Thr His Gly Phe Asn Leu Glu Glu Ala Ala Arg		
1425	1430	1435
Cys Met Arg Ser Leu Lys Ala Pro Ala Val Val Ser Val Ser Ser Pro		
1445	1450	1455
Asp Ala Val Thr Thr Tyr Asn Gly Tyr Leu Thr Ser Ser Ser Lys Thr		
1460	1465	1470
Ser Glu Glu His Phe Val Glu Thr Val Ser Leu Ala Gly Ser Tyr Arg		
1475	1480	1485
Asp Trp Ser Tyr Ser Gly Gln Arg Thr Glu Leu Gly Val Glu Phe Leu		
1490	1495	1500
Lys Arg Gly Asp Lys Ile Val Tyr His Thr Leu Glu Ser Pro Val Glu		
1505	1510	1515
Phe His Leu Asp Gly Glu Val Leu Ser Leu Asp Lys Leu Lys Ser Leu		
1525	1530	1535
Leu Ser Leu Arg Glu Val Lys Thr Ile Lys Val Phe Thr Thr Val Asp		
1540	1545	1550
Asn Thr Asn Leu His Thr Gln Leu Val Asp Met Ser Met Thr Tyr Gly		
1555	1560	1565
Gln Gln Phe Gly Pro Thr Tyr Leu Asp Gly Ala Asp Val Thr Lys Ile		
1570	1575	1580
Lys Pro His Val Asn His Glu Gly Lys Thr Phe Phe Val Leu Pro Ser		
1585	1590	1595
Asp Asp Thr Leu Arg Ser Glu Ala Phe Glu Tyr Tyr His Thr Leu Asp		
1605	1610	1615
Glu Ser Phe Leu Gly Arg Tyr Met Ser Ala Leu Asn His Thr Lys Lys		

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1620	1625	1630
Trp Lys Phe Pro Gln Val Gly Gly Leu Thr Ser Ile Lys Trp Ala Asp		
1635	1640	1645
Asn Asn Cys Tyr Leu Ser Ser Val Leu Leu Ala Leu Gln Gln Leu Glu		
1650	1655	1660
Val Lys Phe Asn Ala Pro Ala Leu Gln Glu Ala Tyr Tyr Arg Ala Arg		
1665	1670	1675
Ala Gly Asp Ala Ala Asn Phe Cys Ala Leu Ile Leu Ala Tyr Ser Asn		
1685	1690	1695
Lys Thr Val Gly Glu Leu Gly Asp Val Arg Glu Thr Met Thr His Leu		
1700	1705	1710
Leu Gln His Ala Asn Leu Glu Ser Ala Lys Arg Val Leu Asn Val Val		
1715	1720	1725
Cys Lys His Cys Gly Gln Lys Thr Thr Thr Leu Thr Gly Val Glu Ala		
1730	1735	1740
Val Met Tyr Met Gly Thr Leu Ser Tyr Asp Asn Leu Lys Thr Gly Val		
1745	1750	1755
Ser Ile Pro Cys Val Cys Gly Arg Asp Ala Thr Gln Tyr Leu Val Gln		
1765	1770	1775
Gln Glu Ser Ser Phe Val Met Met Ser Ala Pro Pro Ala Glu Tyr Lys		
1780	1785	1790
Leu Gln Gln Gly Thr Phe Leu Cys Ala Asn Glu Tyr Thr Gly Asn Tyr		
1795	1800	1805
Gln Cys Gly His Tyr Thr His Ile Thr Ala Lys Glu Thr Leu Tyr Arg		
1810	1815	1820
Ile Asp Gly Ala His Leu Thr Lys Met Ser Glu Tyr Lys Gly Pro Val		
1825	1830	1835
Thr Asp Val Phe Tyr Lys Glu Thr Ser Tyr Thr Thr Thr Ile Lys Pro		
1845	1850	1855
Val Ser Tyr Lys Leu Asp Gly Val Thr Tyr Thr Glu Ile Glu Pro Lys		
1860	1865	1870
Leu Asp Gly Tyr Tyr Lys Lys Asp Asn Ala Tyr Tyr Thr Glu Gln Pro		
1875	1880	1885
Ile Asp Leu Val Pro Thr Gln Pro Leu Pro Asn Ala Ser Phe Asp Asn		
1890	1895	1900
Phe Lys Leu Thr Cys Ser Asn Thr Lys Phe Ala Asp Asp Leu Asn Gln		
1905	1910	1915
Met Thr Gly Phe Thr Lys Pro Ala Ser Arg Glu Leu Ser Val Thr Phe		
1925	1930	1935
Phe Pro Asp Leu Asn Gly Asp Val Val Ala Ile Asp Tyr Arg His Tyr		
1940	1945	1950
Ser Ala Ser Phe Lys Lys Gly Ala Lys Leu Leu His Lys Pro Ile Val		

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1955	1960	1965
Trp His Ile Asn Gln Ala Thr Thr Lys Thr Thr Phe Lys Pro Asn Thr 1970	1975	1980
Trp Cys Leu Arg Cys Leu Trp Ser Thr Lys Pro Val Asp Thr Ser Asn 1985	1990	1995 2000
Ser Phe Glu Val Leu Ala Val Glu Asp Thr Gln Gly Met Asp Asn Leu 2005	2010	2015
Ala Cys Glu Ser Gln Gln Pro Thr Ser Glu Glu Val Val Glu Asn Pro 2020	2025	2030
Thr Ile Gln Lys Glu Val Ile Glu Cys Asp Val Lys Thr Thr Glu Val 2035	2040	2045
Val Gly Asn Val Ile Leu Lys Pro Ser Asp Glu Gly Val Lys Val Thr 2050	2055	2060
Gln Glu Leu Gly His Glu Asp Leu Met Ala Ala Tyr Val Glu Asn Thr 2065	2070	2075 2080
Ser Ile Thr Ile Lys Lys Pro Asn Glu Leu Ser Leu Ala Leu Gly Leu 2085	2090	2095
Lys Thr Ile Ala Thr His Gly Ile Ala Ala Ile Asn Ser Val Pro Trp 2100	2105	2110
Ser Lys Ile Leu Ala Tyr Val Lys Pro Phe Leu Gly Gln Ala Ala Ile 2115	2120	2125
Thr Thr Ser Asn Cys Ala Lys Arg Leu Ala Gln Arg Val Phe Asn Asn 2130	2135	2140
Tyr Met Pro Tyr Val Phe Thr Leu Leu Phe Gln Leu Cys Thr Phe Thr 2145	2150	2155 2160
Lys Ser Thr Asn Ser Arg Ile Arg Ala Ser Leu Pro Thr Thr Ile Ala 2165	2170	2175
Lys Asn Ser Val Lys Ser Val Ala Lys Leu Cys Leu Asp Ala Gly Ile 2180	2185	2190
Asn Tyr Val Lys Ser Pro Lys Phe Ser Lys Leu Phe Thr Ile Ala Met 2195	2200	2205
Trp Leu Leu Leu Leu Ser Ile Cys Leu Gly Ser Leu Ile Cys Val Thr 2210	2215	2220
Ala Ala Phe Gly Val Leu Leu Ser Asn Phe Gly Ala Pro Ser Tyr Cys 2225	2230	2235 2240
Asn Gly Val Arg Glu Leu Tyr Leu Asn Ser Ser Asn Val Thr Thr Met 2245	2250	2255
Asp Phe Cys Glu Gly Ser Phe Pro Cys Ser Ile Cys Leu Ser Gly Leu 2260	2265	2270
Asp Ser Leu Asp Ser Tyr Pro Ala Leu Glu Thr Ile Gln Val Thr Ile 2275	2280	2285
Ser Ser Tyr Lys Leu Asp Leu Thr Ile Leu Gly Leu Ala Ala Glu Trp		

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2290 2295 2300
 Val Leu Ala Tyr Met Leu Phe Thr Lys Phe Phe Tyr Leu Leu Gly Leu
 2305 2310 2315 2320
 Ser Ala Ile Met Gln Val Phe Phe Gly Tyr Phe Ala Ser His Phe Ile
 2325 2330 2335
 Ser Asn Ser Trp Leu Met Trp Phe Ile Ile Ser Ile Val Gln Met Ala
 2340 2345 2350
 Pro Val Ser Ala Met Val Arg Met Tyr Ile Phe Phe Ala Ser Phe Tyr
 2355 2360 2365
 Tyr Ile Trp Lys Ser Tyr Val His Ile Met Asp Gly Cys Thr Ser Ser
 2370 2375 2380
 Thr Cys Met Met Cys Tyr Lys Arg Asn Arg Ala Thr Arg Val Glu Cys
 2385 2390 2395 2400
 Thr Thr Ile Val Asn Gly Met Lys Arg Ser Phe Tyr Val Tyr Ala Asn
 2405 2410 2415
 Gly Gly Arg Gly Phe Cys Lys Thr His Asn Trp Asn Cys Leu Asn Cys
 2420 2425 2430
 Asp Thr Phe Cys Thr Gly Ser Thr Phe Ile Ser Asp Glu Val Ala Arg
 2435 2440 2445
 Asp Leu Ser Leu Gln Phe Lys Arg Pro Ile Asn Pro Thr Asp Gln Ser
 2450 2455 2460
 Ser Tyr Ile Val Asp Ser Val Ala Val Lys Asn Gly Ala Leu His Leu
 2465 2470 2475 2480
 Tyr Phe Asp Lys Ala Gly Gln Lys Thr Tyr Glu Arg His Pro Leu Ser
 2485 2490 2495
 His Phe Val Asn Leu Asp Asn Leu Arg Ala Asn Asn Thr Lys Gly Ser
 2500 2505 2510
 Leu Pro Ile Asn Val Ile Val Phe Asp Gly Lys Ser Lys Cys Asp Glu
 2515 2520 2525
 Ser Ala Ser Lys Ser Ala Ser Val Tyr Tyr Ser Gln Leu Met Cys Gln
 2530 2535 2540
 Pro Ile Leu Leu Leu Asp Gln Ala Leu Val Ser Asp Val Gly Asp Ser
 2545 2550 2555 2560
 Thr Glu Val Ser Val Lys Met Phe Asp Ala Tyr Val Asp Thr Phe Ser
 2565 2570 2575
 Ala Thr Phe Ser Val Pro Met Glu Lys Leu Lys Ala Leu Val Ala Thr
 2580 2585 2590
 Ala His Ser Glu Leu Ala Lys Gly Val Ala Leu Asp Gly Val Leu Ser
 2595 2600 2605
 Thr Phe Val Ser Ala Ala Arg Gln Gly Val Val Asp Thr Asp Val Asp
 2610 2615 2620
 Thr Lys Asp Val Ile Glu Cys Leu Lys Leu Ser His His Ser Asp Leu

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2625		2630		2635		2640
Glu Val Thr Gly	Asp Ser Cys Asn Asn Phe Met Leu Thr Tyr Asn Lys					
	2645			2650		2655
Val Glu Asn Met Thr Pro Arg Asp	Leu Gly Ala Cys Ile Asp Cys Asn					
	2660			2665		2670
Ala Arg His Ile Asn Ala Gln Val Ala Lys Ser His Asn Val Ser Leu						
	2675			2680		2685
Ile Trp Asn Val Lys Asp Tyr Met Ser Leu Ser Glu Gln Leu Arg Lys						
	2690			2695		2700
Gln Ile Arg Ser Ala Ala Lys Lys Asn Asn Ile Pro Phe Arg Leu Thr						
	2705			2710		2715
Cys Ala Thr Thr Arg Gln Val Val Asn Val Ile Thr Thr Lys Ile Ser						
	2725			2730		2735
Leu Lys Gly Gly Lys Ile Val Ser Thr Cys Phe Lys Leu Met Leu Lys						
	2740			2745		2750
Ala Thr Leu Leu Cys Val Leu Ala Ala Leu Val Cys Tyr Ile Val Met						
	2755			2760		2765
Pro Val His Thr Leu Ser Ile His Asp Gly Tyr Thr Asn Glu Ile Ile						
	2770			2775		2780
Gly Tyr Lys Ala Ile Gln Asp Gly Val Thr Arg Asp Ile Ile Ser Thr						
	2785			2790		2795
Asp Asp Cys Phe Ala Asn Lys His Ala Gly Phe Asp Ala Trp Phe Ser						
	2805			2810		2815
Gln Arg Gly Gly Ser Tyr Lys Asn Asp Lys Ser Cys Pro Val Val Ala						
	2820			2825		2830
Ala Ile Ile Thr Arg Glu Ile Gly Phe Ile Val Pro Gly Leu Pro Gly						
	2835			2840		2845
Thr Val Leu Arg Ala Ile Asn Gly Asp Phe Leu His Phe Leu Pro Arg						
	2850			2855		2860
Val Phe Ser Ala Val Gly Asn Ile Cys Tyr Thr Pro Ser Lys Leu Ile						
	2865			2870		2875
Glu Tyr Ser Asp Phe Ala Thr Ser Ala Cys Val Leu Ala Ala Glu Cys						
	2885			2890		2895
Thr Ile Phe Lys Asp Ala Met Gly Lys Pro Val Pro Tyr Cys Tyr Asp						
	2900			2905		2910
Thr Asn Leu Leu Glu Gly Ser Ile Ser Tyr Ser Glu Leu Arg Pro Asp						
	2915			2920		2925
Thr Arg Tyr Val Leu Met Asp Gly Ser Ile Ile Gln Phe Pro Asn Thr						
	2930			2935		2940
Tyr Leu Glu Gly Ser Val Arg Val Val Thr Thr Phe Asp Ala Glu Tyr						
	2945			2950		2955
Cys Arg His Gly Thr Cys Glu Arg Ser Glu Val Gly Ile Cys Leu Ser						

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2965	2970	2975
Thr Ser Gly Arg Trp Val Leu Asn	Asn Glu His Tyr Arg Ala Leu Ser	
2980	2985	2990
Gly Val Phe Cys Gly Val Asp Ala Met Asn Leu Ile Ala Asn Ile Phe		
2995	3000	3005
Thr Pro Leu Val Gln Pro Val Gly Ala Leu Asp Val Ser Ala Ser Val		
3010	3015	3020
Val Ala Gly Gly Ile Ile Ala Ile Leu Val Thr Cys Ala Ala Tyr Tyr		
3025	3030	3035
Phe Met Lys Phe Arg Arg Val Phe Gly Glu Tyr Asn His Val Val Ala		
3045	3050	3055
Ala Asn Ala Leu Leu Phe Leu Met Ser Phe Thr Ile Leu Cys Leu Val		
3060	3065	3070
Pro Ala Tyr Ser Phe Leu Pro Gly Val Tyr Ser Val Phe Tyr Leu Tyr		
3075	3080	3085
Leu Thr Phe Tyr Phe Thr Asn Asp Val Ser Phe Leu Ala His Leu Gln		
3090	3095	3100
Trp Phe Ala Met Phe Ser Pro Ile Val Pro Phe Trp Ile Thr Ala Ile		
3105	3110	3115
Tyr Val Phe Cys Ile Ser Leu Lys His Cys His Trp Phe Phe Asn Asn		
3125	3130	3135
Tyr Leu Arg Lys Arg Val Met Phe Asn Gly Val Thr Phe Ser Thr Phe		
3140	3145	3150
Glu Glu Ala Ala Leu Cys Thr Phe Leu Leu Asn Lys Glu Met Tyr Leu		
3155	3160	3165
Lys Leu Arg Ser Glu Thr Leu Leu Pro Leu Thr Gln Tyr Asn Arg Tyr		
3170	3175	3180
Leu Ala Leu Tyr Asn Lys Tyr Lys Tyr Phe Ser Gly Ala Leu Asp Thr		
3185	3190	3195
Thr Ser Tyr Arg Glu Ala Ala Cys Cys His Leu Ala Lys Ala Leu Asn		
3205	3210	3215
Asp Phe Ser Asn Ser Gly Ala Asp Val Leu Tyr Gln Pro Pro Gln Thr		
3220	3225	3230
Ser Ile Thr Ser Ala Val Leu Gln Ser Gly Phe Arg Lys Met Ala Phe		
3235	3240	3245
Pro Ser Gly Lys Val Glu Gly Cys Met Val Gln Val Thr Cys Gly Thr		
3250	3255	3260
Thr Thr Leu Asn Gly Leu Trp Leu Asp Asp Thr Val Tyr Cys Pro Arg		
3265	3270	3275
His Val Ile Cys Thr Ala Glu Asp Met Leu Asn Pro Asn Tyr Glu Asp		
3285	3290	3295
Leu Leu Ile Arg Lys Ser Asn His Ser Phe Leu Val Gln Ala Gly Asn		

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3300 3305 3310
 Val Gln Leu Arg Val Ile Gly His Ser Met Gln Asn Cys Leu Leu Arg
 3315 3320 3325
 Leu Lys Val Asp Thr Ser Asn Pro Lys Thr Pro Lys Tyr Lys Phe Val
 3330 3335 3340
 Arg Ile Gln Pro Gly Gln Thr Phe Ser Val Leu Ala Cys Tyr Asn Gly
 3345 3350 3355 3360
 Ser Pro Ser Gly Val Tyr Gln Cys Ala Met Arg Pro Asn His Thr Ile
 3365 3370 3375
 Lys Gly Ser Phe Leu Asn Gly Ser Cys Gly Ser Val Gly Phe Asn Ile
 3380 3385 3390
 Asp Tyr Asp Cys Val Ser Phe Cys Tyr Met His His Met Glu Leu Pro
 3395 3400 3405
 Thr Gly Val His Ala Gly Thr Asp Leu Glu Gly Lys Phe Tyr Gly Pro
 3410 3415 3420
 Phe Val Asp Arg Gln Thr Ala Gln Ala Ala Gly Thr Asp Thr Thr Ile
 3425 3430 3435 3440
 Thr Leu Asn Val Leu Ala Trp Leu Tyr Ala Ala Val Ile Asn Gly Asp
 3445 3450 3455
 Arg Trp Phe Leu Asn Arg Phe Thr Thr Thr Leu Asn Asp Phe Asn Leu
 3460 3465 3470
 Val Ala Met Lys Tyr Asn Tyr Glu Pro Leu Thr Gln Asp His Val Asp
 3475 3480 3485
 Ile Leu Gly Pro Leu Ser Ala Gln Thr Gly Ile Ala Val Leu Asp Met
 3490 3495 3500
 Cys Ala Ala Leu Lys Glu Leu Leu Gln Asn Gly Met Asn Gly Arg Thr
 3505 3510 3515 3520
 Ile Leu Gly Ser Thr Ile Leu Glu Asp Glu Phe Thr Pro Phe Asp Val
 3525 3530 3535
 Val Arg Gln Cys Ser Gly Val Thr Phe Gln Gly Lys Phe Lys Lys Ile
 3540 3545 3550
 Val Lys Gly Thr His His Trp Met Leu Leu Thr Phe Leu Thr Ser Leu
 3555 3560 3565
 Leu Ile Leu Val Gln Ser Thr Gln Trp Ser Leu Phe Phe Phe Val Tyr
 3570 3575 3580
 Glu Asn Ala Phe Leu Pro Phe Thr Leu Gly Ile Met Ala Ile Ala Ala
 3585 3590 3595 3600
 Cys Ala Met Leu Leu Val Lys His Lys His Ala Phe Leu Cys Leu Phe
 3605 3610 3615
 Leu Leu Pro Ser Leu Ala Thr Val Ala Tyr Phe Asn Met Val Tyr Met
 3620 3625 3630
 Pro Ala Ser Trp Val Met Arg Ile Met Thr Trp Leu Glu Leu Ala Asp

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3635	3640	3645
Thr Ser Leu Ser Gly Tyr Arg Leu Lys Asp Cys Val Met Tyr Ala Ser		
3650	3655	3660
Ala Leu Val Leu Leu Ile Leu Met Thr Ala Arg Thr Val Tyr Asp Asp		
3665	3670	3680
Ala Ala Arg Arg Val Trp Thr Leu Met Asn Val Ile Thr Leu Val Tyr		
	3685	3690
Lys Val Tyr Tyr Gly Asn Ala Leu Asp Gln Ala Ile Ser Met Trp Ala		
	3700	3710
Leu Val Ile Ser Val Thr Ser Asn Tyr Ser Gly Val Val Thr Thr Ile		
	3715	3720
Met Phe Leu Ala Arg Ala Ile Val Phe Val Cys Val Glu Tyr Tyr Pro		
	3730	3740
Leu Leu Phe Ile Thr Gly Asn Thr Leu Gln Cys Ile Met Leu Val Tyr		
	3745	3750
Cys Phe Leu Gly Tyr Cys Cys Cys Cys Tyr Phe Gly Leu Phe Cys Leu		
	3765	3770
Leu Asn Arg Tyr Phe Arg Leu Thr Leu Gly Val Tyr Asp Tyr Leu Val		
	3780	3785
Ser Thr Gln Glu Phe Arg Tyr Met Asn Ser Gln Gly Leu Leu Pro Pro		
	3795	3800
Lys Ser Ser Ile Asp Ala Phe Lys Leu Asn Ile Lys Leu Leu Gly Ile		
	3810	3815
Gly Gly Lys Pro Cys Ile Lys Val Ala Thr Val Gln Ser Lys Met Ser		
	3825	3830
Asp Val Lys Cys Thr Ser Val Val Leu Leu Ser Val Leu Gln Gln Leu		
	3845	3850
Arg Val Glu Ser Ser Ser Lys Leu Trp Ala Gln Cys Val Gln Leu His		
	3860	3865
Asn Asp Ile Leu Leu Ala Lys Asp Thr Thr Glu Ala Phe Glu Lys Met		
	3875	3880
Val Ser Leu Leu Ser Val Leu Leu Ser Met Gln Gly Ala Val Asp Ile		
	3890	3895
Asn Arg Leu Cys Glu Glu Met Leu Asp Asn Arg Ala Thr Leu Gln Ala		
	3905	3910
Ile Ala Ser Glu Phe Ser Ser Leu Pro Ser Tyr Ala Ala Tyr Ala Thr		
	3925	3930
Ala Gln Glu Ala Tyr Glu Gln Ala Val Ala Asn Gly Asp Ser Glu Val		
	3940	3945
Val Leu Lys Lys Leu Lys Lys Ser Leu Asn Val Ala Lys Ser Glu Phe		
	3955	3960
Asp Arg Asp Ala Ala Met Gln Arg Lys Leu Glu Lys Met Ala Asp Gln		

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3970	3975	3980
Ala Met Thr Gln Met	Tyr Lys Gln Ala Arg Ser Glu Asp Lys Arg Ala	
3985	3990	3995 4000
Lys Val Thr Ser	Ala Met Gln Thr Met Leu Phe Thr Met Leu Arg Lys	
	4005	4010 4015
Leu Asp Asn Asp Ala Leu Asn Asn Ile Ile Asn Asn Ala Arg Asp Gly		
	4020	4025 4030
Cys Val Pro Leu Asn Ile Ile Pro Leu Thr Thr Ala Ala Lys Leu Met		
	4035	4040 4045
Val Val Val Pro Asp Tyr Gly Thr Tyr Lys Asn Thr Cys Asp Gly Asn		
	4050	4055 4060
Thr Phe Thr Tyr Ala Ser Ala Leu Trp Glu Ile Gln Gln Val Val Asp		
	4065	4070 4075 4080
Ala Asp Ser Lys Ile Val Gln Leu Ser Glu Ile Asn Met Asp Asn Ser		
	4085	4090 4095
Pro Asn Leu Ala Trp Pro Leu Ile Val Thr Ala Leu Arg Ala Asn Ser		
	4100	4105 4110
Ala Val Lys Leu Gln Asn Asn Glu Leu Ser Pro Val Ala Leu Arg Gln		
	4115	4120 4125
Met Ser Cys Ala Ala Gly Thr Thr Gln Thr Ala Cys Thr Asp Asp Asn		
	4130	4135 4140
Ala Leu Ala Tyr Tyr Asn Asn Ser Lys Gly Gly Arg Phe Val Leu Ala		
	4145	4150 4155 4160
Leu Leu Ser Asp His Gln Asp Leu Lys Trp Ala Arg Phe Pro Lys Ser		
	4165	4170 4175
Asp Gly Thr Gly Thr Ile Tyr Thr Glu Leu Glu Pro Pro Cys Arg Phe		
	4180	4185 4190
Val Thr Asp Thr Pro Lys Gly Pro Lys Val Lys Tyr Leu Tyr Phe Ile		
	4195	4200 4205
Lys Gly Leu Asn Asn Leu Asn Arg Gly Met Val Leu Gly Ser Leu Ala		
	4210	4215 4220
Ala Thr Val Arg Leu Gln Ala Gly Asn Ala Thr Glu Val Pro Ala Asn		
	4225	4230 4235 4240
Ser Thr Val Leu Ser Phe Cys Ala Phe Ala Val Asp Pro Ala Lys Ala		
	4245	4250 4255
Tyr Lys Asp Tyr Leu Ala Ser Gly Gly Gln Pro Ile Thr Asn Cys Val		
	4260	4265 4270
Lys Met Leu Cys Thr His Thr Gly Thr Gly Gln Ala Ile Thr Val Thr		
	4275	4280 4285
Pro Glu Ala Asn Met Asp Gln Glu Ser Phe Gly Gly Ala Ser Cys Cys		
	4290	4295 4300
Leu Tyr Cys Arg Cys His Ile Asp His Pro Asn Pro Lys Gly Phe Cys		

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4305 4310 4315 4320
 Asp Leu Lys Gly Lys Tyr Val Gln Ile Pro Thr Thr Cys Ala Asn Asp
 4325 4330 4335
 Pro Val Gly Phe Thr Leu Arg Asn Thr Val Cys Thr Val Cys Gly Met
 4340 4345 4350
 Trp Lys Gly Tyr Gly Cys Ser Cys Asp Gln Leu Arg Glu Pro Leu Met
 4355 4360 4365
 Gln Ser Ala Asp Ala Ser Thr Xaa Xaa Xaa Xaa Gly Val Ser Ala Ala
 4370 4375 4380
 Arg Leu Thr Pro Cys Gly Thr Gly Thr Ser Thr Asp Val Val Tyr Arg
 4385 4390 4395 4400
 Ala Phe Asp Ile Tyr Asn Glu Lys Val Ala Gly Phe Ala Lys Phe Leu
 4405 4410 4415
 Lys Thr Asn Cys Cys Arg Phe Gln Glu Lys Asp Glu Glu Gly Asn Leu
 4420 4425 4430
 Leu Asp Ser Tyr Phe Val Val Lys Arg His Thr Met Ser Asn Tyr Gln
 4435 4440 4445
 His Glu Glu Thr Ile Tyr Asn Leu Val Lys Asp Cys Pro Ala Val Ala
 4450 4455 4460
 Val His Asp Phe Phe Lys Phe Arg Val Asp Gly Asp Met Val Pro His
 4465 4470 4475 4480
 Ile Ser Arg Gln Arg Leu Thr Lys Tyr Thr Met Ala Asp Leu Val Tyr
 4485 4490 4495
 Ala Leu Arg His Phe Asp Glu Gly Asn Cys Asp Thr Leu Lys Glu Ile
 4500 4505 4510
 Leu Val Thr Tyr Asn Cys Cys Asp Asp Asp Tyr Phe Asn Lys Lys Asp
 4515 4520 4525
 Trp Tyr Asp Phe Val Glu Asn Pro Asp Ile Leu Arg Val Tyr Ala Asn
 4530 4535 4540
 Leu Gly Glu Arg Val Arg Gln Ser Leu Leu Lys Thr Val Gln Phe Cys
 4545 4550 4555 4560
 Asp Ala Met Arg Asp Ala Gly Ile Val Gly Val Leu Thr Leu Asp Asn
 4565 4570 4575
 Gln Asp Leu Asn Gly Asn Trp Tyr Asp Phe Gly Asp Phe Val Gln Val
 4580 4585 4590
 Ala Pro Gly Cys Gly Val Pro Ile Val Asp Ser Tyr Tyr Ser Leu Leu
 4595 4600 4605
 Met Pro Ile Leu Thr Leu Thr Arg Ala Leu Ala Ala Glu Ser His Met
 4610 4615 4620
 Asp Ala Asp Leu Ala Lys Pro Leu Ile Lys Trp Asp Leu Leu Lys Tyr
 4625 4630 4635 4640
 Asp Phe Thr Glu Glu Arg Leu Cys Leu Phe Asp Arg Tyr Phe Lys Tyr

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4645
 Trp Asp Gln Thr Tyr His Pro Asn Cys Ile Asn Cys Leu Asp Asp Arg
 4660 4665 4670
 Cys Ile Leu His Cys Ala Asn Phe Asn Val Leu Phe Ser Thr Val Phe
 4675 4680 4685
 Pro Pro Thr Ser Phe Gly Pro Leu Val Arg Lys Ile Phe Val Asp Gly
 4690 4695 4700
 Val Pro Phe Val Val Ser Thr Gly Tyr His Phe Arg Glu Leu Gly Val
 4705 4710 4715 4720
 Val His Asn Gln Asp Val Asn Leu His Ser Ser Arg Leu Ser Phe Lys
 4725 4730 4735
 Glu Leu Leu Val Tyr Ala Ala Asp Pro Ala Met His Ala Ala Ser Gly
 4740 4745 4750
 Asn Leu Leu Leu Asp Lys Arg Thr Thr Cys Phe Ser Val Ala Ala Leu
 4755 4760 4765
 Thr Asn Asn Val Ala Phe Gln Thr Val Lys Pro Gly Asn Phe Asn Lys
 4770 4775 4780
 Asp Phe Tyr Asp Phe Ala Val Ser Lys Gly Phe Phe Lys Glu Gly Ser
 4785 4790 4795 4800
 Ser Val Glu Leu Lys His Phe Phe Phe Ala Gln Asp Gly Asn Ala Ala
 4805 4810 4815
 Ile Ser Asp Tyr Asp Tyr Tyr Arg Tyr Asn Leu Pro Thr Met Cys Asp
 4820 4825 4830
 Ile Arg Gln Leu Leu Phe Val Val Glu Val Val Asp Lys Tyr Phe Asp
 4835 4840 4845
 Cys Tyr Asp Gly Gly Cys Ile Asn Ala Asn Gln Val Ile Val Asn Asn
 4850 4855 4860
 Leu Asp Lys Ser Ala Gly Phe Pro Phe Asn Lys Trp Gly Lys Ala Arg
 4865 4870 4875 4880
 Leu Tyr Tyr Asp Ser Met Ser Tyr Glu Asp Gln Asp Ala Leu Phe Ala
 4885 4890 4895
 Tyr Thr Lys Arg Asn Val Ile Pro Thr Ile Thr Gln Met Asn Leu Lys
 4900 4905 4910
 Tyr Ala Ile Ser Ala Lys Asn Arg Ala Arg Thr Val Ala Gly Val Ser
 4915 4920 4925
 Ile Cys Ser Thr Met Thr Asn Arg Gln Phe His Gln Lys Leu Leu Lys
 4930 4935 4940
 Ser Ile Ala Ala Thr Arg Gly Ala Thr Val Val Ile Gly Thr Ser Lys
 4945 4950 4955 4960
 Phe Tyr Gly Gly Trp His Asn Met Leu Lys Thr Val Tyr Ser Asp Val
 4965 4970 4975
 Glu Thr Pro His Leu Met Gly Trp Asp Tyr Pro Lys Cys Asp Arg Ala

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4980	4985	4990
Met Pro Asn Met Leu Arg Ile Met Ala Ser Leu Val Leu Ala Arg Lys	5000	5005
4995	5010	5015
His Asn Thr Cys Cys Asn Leu Ser His Arg Phe Tyr Arg Leu Ala Asn	5015	5020
5010	5030	5035
Glu Cys Ala Gln Val Leu Ser Glu Met Val Met Cys Gly Gly Ser Leu	5030	5040
5025	5045	5050
Tyr Val Lys Pro Gly Gly Thr Ser Ser Gly Asp Ala Thr Thr Ala Tyr	5045	5055
5045	5060	5065
Ala Asn Ser Val Phe Asn Ile Cys Gln Ala Val Thr Ala Asn Val Asn	5060	5070
5060	5075	5080
Ala Leu Leu Ser Thr Asp Gly Asn Lys Ile Ala Asp Lys Tyr Val Arg	5075	5085
5075	5090	5095
Asn Leu Gln His Arg Leu Tyr Glu Cys Leu Tyr Arg Asn Arg Asp Val	5090	5100
5090	5110	5115
Asp His Glu Phe Val Asp Glu Phe Tyr Ala Tyr Leu Arg Lys His Phe	5110	5120
5105	5125	5130
Ser Met Met Ile Leu Ser Asp Asp Ala Val Val Cys Tyr Asn Ser Asn	5125	5135
5125	5140	5145
Tyr Ala Ala Gln Gly Leu Val Ala Ser Ile Lys Asn Phe Lys Ala Val	5140	5150
5140	5160	5165
Leu Tyr Tyr Gln Asn Asn Val Phe Met Ser Glu Ala Lys Cys Trp Thr	5155	5165
5155	5175	5180
Glu Thr Asp Leu Thr Lys Gly Pro His Glu Phe Cys Ser Gln His Thr	5175	5185
5170	5190	5195
Met Leu Val Lys Gln Gly Asp Asp Tyr Val Tyr Leu Pro Tyr Pro Asp	5185	5200
5185	5205	5210
Pro Ser Arg Ile Leu Gly Ala Gly Cys Phe Val Asp Asp Ile Val Lys	5205	5215
5205	5225	5230
Thr Asp Gly Thr Leu Met Ile Glu Arg Phe Val Ser Leu Ala Ile Asp	5220	5230
5220	5240	5245
Ala Tyr Pro Leu Thr Lys His Pro Asn Gln Glu Tyr Ala Asp Val Phe	5235	5245
5235	5255	5260
His Leu Tyr Leu Gln Tyr Ile Arg Lys Leu His Asp Glu Leu Thr Gly	5250	5260
5250	5270	5275
His Met Leu Asp Met Tyr Ser Val Met Leu Thr Asn Asp Asn Thr Ser	5265	5275
5265	5285	5290
Arg Tyr Trp Glu Pro Glu Phe Tyr Glu Ala Met Tyr Thr Pro His Thr	5285	5295
5285	5305	5310
Val Leu Gln Ala Val Gly Ala Cys Val Leu Cys Asn Ser Gln Thr Ser	5300	5310
5300	5315	5320
Leu Arg Cys Gly Ala Cys Ile Arg Arg Pro Phe Leu Cys Cys Lys Cys	5315	5320

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5315 5320 5325
 Cys Tyr Asp His Val Ile Ser Thr Ser His Lys Leu Val Leu Ser Val
 5330 5335 5340
 Asn Pro Tyr Val Cys Asn Ala Pro Gly Cys Asp Val Thr Asp Val Thr
 5345 5350 5355 5360
 Gln Leu Tyr Leu Gly Gly Met Ser Tyr Tyr Cys Lys Ser His Lys Pro
 5365 5370 5375
 Pro Ile Ser Phe Pro Leu Cys Ala Asn Gly Gln Val Phe Gly Leu Tyr
 5380 5385 5390
 Lys Asn Thr Cys Val Gly Ser Asp Asn Val Thr Asp Phe Asn Ala Ile
 5395 5400 5405
 Ala Thr Cys Asp Trp Thr Asn Ala Gly Asp Tyr Ile Leu Ala Asn Thr
 5410 5415 5420
 Cys Thr Glu Arg Leu Lys Leu Phe Ala Ala Glu Thr Leu Lys Ala Thr
 5425 5430 5435 5440
 Glu Glu Thr Phe Lys Leu Ser Tyr Gly Ile Ala Thr Val Arg Glu Val
 5445 5450 5455
 Leu Ser Asp Arg Glu Leu His Leu Ser Trp Glu Val Gly Lys Pro Arg
 5460 5465 5470
 Pro Pro Leu Asn Arg Asn Tyr Val Phe Thr Gly Tyr Arg Val Thr Lys
 5475 5480 5485
 Asn Ser Lys Val Gln Ile Gly Glu Tyr Thr Phe Glu Lys Gly Asp Tyr
 5490 5495 5500
 Gly Asp Ala Val Val Tyr Arg Gly Thr Thr Thr Tyr Lys Leu Asn Val
 5505 5510 5515 5520
 Gly Asp Tyr Phe Val Leu Thr Ser His Thr Val Met Pro Leu Ser Ala
 5525 5530 5535
 Pro Thr Leu Val Pro Gln Glu His Tyr Val Arg Ile Thr Gly Leu Tyr
 5540 5545 5550
 Pro Thr Leu Asn Ile Ser Asp Glu Phe Ser Ser Asn Val Ala Asn Tyr
 5555 5560 5565
 Gln Lys Val Gly Met Gln Lys Tyr Ser Thr Leu Gln Gly Pro Pro Gly
 5570 5575 5580
 Thr Gly Lys Ser His Phe Ala Ile Gly Leu Ala Leu Tyr Tyr Pro Ser
 5585 5590 5595 5600
 Ala Arg Ile Val Tyr Thr Ala Cys Ser His Ala Ala Val Asp Ala Leu
 5605 5610 5615
 Cys Glu Lys Ala Leu Lys Tyr Leu Pro Ile Asp Lys Cys Ser Arg Ile
 5620 5625 5630
 Ile Pro Ala Arg Ala Arg Val Glu Cys Phe Asp Lys Phe Lys Val Asn
 5635 5640 5645
 Ser Thr Leu Glu Gln Tyr Val Phe Cys Thr Val Asn Ala Leu Pro Glu

SEQLIST-20480.TXT

5650	5655	5660
Thr Thr Ala Asp Ile Val Val Phe Asp Glu Ile Ser Met Ala Thr Asn		
5665	5670	5675
Tyr Asp Leu Ser Val Val Asn Ala Arg Leu Arg Ala Lys His Tyr Val		
	5685	5690
Tyr Ile Gly Asp Pro Ala Gln Leu Pro Ala Pro Arg Thr Leu Leu Thr		
	5700	5705
Lys Gly Thr Leu Glu Pro Glu Tyr Phe Asn Ser Val Cys Arg Leu Met		
	5715	5720
Lys Thr Ile Gly Pro Asp Met Phe Leu Gly Thr Cys Arg Arg Cys Pro		
	5730	5735
Ala Glu Ile Val Asp Thr Val Ser Ala Leu Val Tyr Asp Asn Lys Leu		
	5745	5750
Lys Ala His Lys Asp Lys Ser Ala Gln Cys Phe Lys Met Phe Tyr Lys		
	5765	5770
Gly Val Ile Thr His Asp Val Ser Ser Ala Ile Asn Arg Pro Gln Ile		
	5780	5785
Gly Val Val Arg Glu Phe Leu Thr Arg Asn Pro Ala Trp Arg Lys Ala		
	5795	5800
Val Phe Ile Ser Pro Tyr Asn Ser Gln Asn Ala Val Ala Ser Lys Ile		
	5810	5815
Leu Gly Leu Pro Thr Gln Thr Val Asp Ser Ser Gln Gly Ser Glu Tyr		
	5825	5830
Asp Tyr Val Ile Phe Thr Gln Thr Thr Glu Thr Ala His Ser Cys Asn		
	5845	5850
Val Asn Arg Phe Asn Val Ala Ile Thr Arg Ala Lys Ile Gly Ile Leu		
	5860	5865
Cys Ile Met Ser Asp Arg Asp Leu Tyr Asp Lys Leu Gln Phe Thr Ser		
	5875	5880
Leu Glu Ile Pro Arg Arg Asn Val Ala Thr Leu Gln Ala Glu Asn Val		
	5890	5895
Thr Gly Leu Phe Lys Asp Cys Ser Lys Ile Ile Thr Gly Leu His Pro		
	5905	5910
Thr Gln Ala Pro Thr His Leu Ser Val Asp Ile Lys Phe Lys Thr Glu		
	5925	5930
Gly Leu Cys Val Asp Ile Pro Gly Ile Pro Lys Asp Met Thr Tyr Arg		
	5940	5945
Arg Leu Ile Ser Met Met Gly Phe Lys Met Asn Tyr Gln Val Asn Gly		
	5955	5960
Tyr Pro Asn Met Phe Ile Thr Arg Glu Glu Ala Ile Arg His Val Arg		
	5970	5975
Ala Trp Ile Gly Phe Asp Val Glu Gly Cys His Ala Thr Arg Asp Ala		

SEQLIST-20480.TXT

5985 5990 5995 6000

Val Gly Thr Asn Leu Pro Leu Gln Leu Gly Phe Ser Thr Gly Val Asn
 6005 6010 6015

Leu Val Ala Val Pro Thr Gly Tyr Val Asp Thr Glu Asn Asn Thr Glu
 6020 6025 6030

Phe Thr Arg Val Asn Ala Lys Pro Pro Pro Gly Asp Gln Phe Lys His
 6035 6040 6045

Leu Ile Pro Leu Met Tyr Lys Gly Leu Pro Trp Asn Val Val Arg Ile
 6050 6055 6060

Lys Ile Val Gln Met Leu Ser Asp Thr Leu Lys Gly Leu Ser Asp Arg
 6065 6070 6075 6080

Val Val Phe Val Leu Trp Ala His Gly Phe Glu Leu Thr Ser Met Lys
 6085 6090 6095

Tyr Phe Val Lys Ile Gly Pro Glu Arg Thr Cys Cys Leu Cys Asp Lys
 6100 6105 6110

Arg Ala Thr Cys Phe Ser Thr Ser Ser Asp Thr Tyr Ala Cys Trp Asn
 6115 6120 6125

His Ser Val Gly Phe Asp Tyr Val Tyr Asn Pro Phe Met Ile Asp Val
 6130 6135 6140

Gln Gln Trp Gly Phe Thr Gly Asn Leu Gln Ser Asn His Asp Gln His
 6145 6150 6155 6160

Cys Gln Val His Gly Asn Ala His Val Ala Ser Cys Asp Ala Ile Met
 6165 6170 6175

Thr Arg Cys Leu Ala Val His Glu Cys Phe Val Lys Arg Val Asp Trp
 6180 6185 6190

Ser Val Glu Tyr Pro Ile Ile Gly Asp Glu Leu Arg Val Asn Ser Ala
 6195 6200 6205

Cys Arg Lys Val Gln His Met Val Val Lys Ser Ala Leu Leu Ala Asp
 6210 6215 6220

Lys Phe Pro Val Leu His Asp Ile Gly Asn Pro Lys Ala Ile Lys Cys
 6225 6230 6235 6240

Val Pro Gln Ala Glu Val Glu Trp Lys Phe Tyr Asp Ala Gln Pro Cys
 6245 6250 6255

Ser Asp Lys Ala Tyr Lys Ile Glu Glu Leu Phe Tyr Ser Tyr Ala Thr
 6260 6265 6270

His His Asp Lys Phe Thr Asp Gly Val Cys Leu Phe Trp Asn Cys Asn
 6275 6280 6285

Val Asp Arg Tyr Pro Ala Asn Ala Ile Val Cys Arg Phe Asp Thr Arg
 6290 6295 6300

Val Leu Ser Asn Leu Asn Leu Pro Gly Cys Asp Gly Gly Ser Leu Tyr
 6305 6310 6315 6320

Val Asn Lys His Ala Phe His Thr Pro Ala Phe Asp Lys Ser Ala Phe

SEQLIST-20480.TXT

6325		6330		6335
Thr Asn Leu Lys Gln Leu Pro Phe	Phe Tyr Tyr Ser Asp Ser Pro Cys			
	6340	6345	6350	
Glu Ser His Gly Lys Gln Val Val Ser Asp Ile Asp Tyr Val Pro Leu				
	6355	6360	6365	
Lys Ser Ala Thr Cys Ile Thr Arg Cys Asn Leu Gly Gly Ala Val Cys				
	6370	6375	6380	
Arg His His Ala Asn Glu Tyr Arg Gln Tyr Leu Asp Ala Tyr Asn Met				
	6385	6390	6395	6400
Met Ile Ser Ala Gly Phe Ser Leu Trp Ile Tyr Lys Gln Phe Asp Thr				
	6405	6410	6415	
Tyr Asn Leu Trp Asn Thr Phe Thr Arg Leu Gln Ser Leu Glu Asn Val				
	6420	6425	6430	
Ala Tyr Asn Val Val Asn Lys Gly His Phe Asp Gly His Ala Gly Glu				
	6435	6440	6445	
Ala Pro Val Ser Ile Ile Asn Asn Ala Val Tyr Thr Lys Val Asp Gly				
	6450	6455	6460	
Ile Asp Val Glu Ile Phe Glu Asn Lys Thr Thr Leu Pro Val Asn Val				
	6465	6470	6475	6480
Ala Phe Glu Leu Trp Ala Lys Arg Asn Ile Lys Pro Val Pro Glu Ile				
	6485	6490	6495	
Lys Ile Leu Asn Asn Leu Gly Val Asp Ile Ala Ala Asn Thr Val Ile				
	6500	6505	6510	
Trp Asp Tyr Lys Arg Glu Ala Pro Ala His Val Ser Thr Ile Gly Val				
	6515	6520	6525	
Cys Thr Met Thr Asp Ile Ala Lys Lys Pro Thr Glu Ser Ala Cys Ser				
	6530	6535	6540	
Ser Leu Thr Val Leu Phe Asp Gly Arg Val Glu Gly Gln Val Asp Leu				
	6545	6550	6555	6560
Phe Arg Asn Ala Arg Asn Gly Val Leu Ile Thr Glu Gly Ser Val Lys				
	6565	6570	6575	
Gly Leu Thr Pro Ser Lys Gly Pro Ala Gln Ala Ser Val Asn Gly Val				
	6580	6585	6590	
Thr Leu Ile Gly Glu Ser Val Lys Thr Gln Phe Asn Tyr Phe Lys Lys				
	6595	6600	6605	
Val Asp Gly Ile Ile Gln Gln Leu Pro Glu Thr Tyr Phe Thr Gln Ser				
	6610	6615	6620	
Arg Asp Leu Glu Asp Phe Lys Pro Arg Ser Gln Met Glu Thr Asp Phe				
	6625	6630	6635	6640
Leu Glu Leu Ala Met Asp Glu Phe Ile Gln Arg Tyr Lys Leu Glu Gly				
	6645	6650	6655	
Tyr Ala Phe Glu His Ile Val Tyr Gly Asp Phe Ser His Gly Gln Leu				

SEQLIST-20480.TXT

6660 6665 6670
 Gly Gly Leu His Leu Met Ile Gly Leu Ala Lys Arg Ser Gln Asp Ser
 6675 6680 6685
 Pro Leu Lys Leu Glu Asp Phe Ile Pro Met Asp Ser Thr Val Lys Asn
 6690 6695 6700
 Tyr Phe Ile Thr Asp Ala Gln Thr Gly Ser Ser Lys Cys Val Cys Ser
 6705 6710 6715 6720
 Val Ile Asp Leu Leu Leu Asp Asp Phe Val Glu Ile Ile Lys Ser Gln
 6725 6730 6735
 Asp Leu Ser Val Ile Ser Lys Val Val Lys Val Thr Ile Asp Tyr Ala
 6740 6745 6750
 Glu Ile Ser Phe Met Leu Trp Cys Lys Asp Gly His Val Glu Thr Phe
 6755 6760 6765
 Tyr Pro Lys Leu Gln Ala Ser Arg Ala Trp Gln Pro Gly Val Ala Met
 6770 6775 6780
 Pro Asn Leu Tyr Lys Met Gln Arg Met Leu Leu Glu Lys Cys Asp Leu
 6785 6790 6795 6800
 Gln Asn Tyr Gly Glu Asn Ala Val Ile Pro Lys Gly Ile Met Met Asn
 6805 6810 6815
 Val Ala Lys Tyr Thr Gln Leu Cys Gln Tyr Leu Asn Thr Leu Thr Leu
 6820 6825 6830
 Ala Val Pro Tyr Asn Met Arg Val Ile His Phe Gly Ala Gly Ser Asp
 6835 6840 6845
 Lys Gly Val Ala Pro Gly Thr Ala Val Leu Arg Gln Trp Leu Pro Thr
 6850 6855 6860
 Gly Thr Leu Leu Val Asp Ser Asp Leu Asn Asp Phe Val Ser Asp Ala
 6865 6870 6875 6880
 Tyr Ser Thr Leu Ile Gly Asp Cys Ala Thr Val His Thr Ala Asn Lys
 6885 6890 6895
 Trp Asp Leu Ile Ile Ser Asp Met Tyr Asp Pro Arg Thr Lys His Val
 6900 6905 6910
 Thr Lys Glu Asn Asp Ser Lys Glu Gly Phe Phe Thr Tyr Leu Cys Gly
 6915 6920 6925
 Phe Ile Lys Gln Lys Leu Ala Leu Gly Gly Ser Ile Ala Val Lys Ile
 6930 6935 6940
 Thr Glu His Ser Trp Asn Ala Asp Leu Tyr Lys Leu Met Gly His Phe
 6945 6950 6955 6960
 Ser Trp Trp Thr Ala Phe Val Thr Asn Val Asn Ala Ser Ser Ser Glu
 6965 6970 6975
 Ala Phe Leu Ile Gly Ala Asn Tyr Leu Gly Lys Pro Lys Glu Gln Ile
 6980 6985 6990
 Asp Gly Tyr Thr Met His Ala Asn Tyr Ile Phe Trp Arg Asn Thr Asn

SEQLIST-20480.TXT

6995

7000

7005

Pro Ile Gln Leu Ser Ser Tyr Ser Leu Phe Asp Met Ser Lys Phe Pro
 7010 7015 7020
 Leu Lys Leu Arg Gly Thr Ala Val Met Ser Leu Lys Glu Asn Gln Ile
 7025 7030 7035 7040
 Asn Asp Met Ile Tyr Ser Leu Leu Glu Lys Gly Arg Leu Ile Ile Arg
 7045 7050 7055
 Glu Asn Asn Arg Val Val Val Ser Ser Asp Ile Leu Val Asn Asn
 7060 7065 7070

<210> 7239
 <211> 7072
 <212> PRT
 <213> SARS coronavirus

<220>
 <221> misc_feature
 <222> 4376...4380
 <223> Xaa is any amino acid

<400> 7239
 Met Glu Ser Leu Val Leu Gly Val Asn Glu Lys Thr His Val Gln Leu
 1 5 10 15
 Ser Leu Pro Val Leu Gln Val Arg Asp Val Leu Val Arg Gly Phe Gly
 20 25 30
 Asp Ser Val Glu Glu Ala Leu Ser Glu Ala Arg Glu His Leu Lys Asn
 35 40 45
 Gly Thr Cys Gly Leu Val Glu Leu Glu Lys Gly Val Leu Pro Gln Leu
 50 55 60
 Glu Gln Pro Tyr Val Phe Ile Lys Arg Ser Asp Ala Leu Ser Thr Asn
 65 70 75 80
 His Gly His Lys Val Val Glu Leu Val Ala Glu Met Asp Gly Ile Gln
 85 90 95
 Tyr Gly Arg Ser Gly Ile Thr Leu Gly Val Leu Val Pro His Val Gly
 100 105 110
 Glu Thr Pro Ile Ala Tyr Arg Asn Val Leu Leu Arg Lys Asn Gly Asn
 115 120 125
 Lys Gly Ala Gly Gly His Ser Tyr Gly Ile Asp Leu Lys Ser Tyr Asp
 130 135 140
 Leu Gly Asp Glu Leu Gly Thr Asp Pro Ile Glu Asp Tyr Glu Gln Asn
 145 150 155 160
 Trp Asn Thr Lys His Gly Ser Gly Ala Leu Arg Glu Leu Thr Arg Glu
 165 170 175
 Leu Asn Gly Gly Ala Val Thr Arg Tyr Val Asp Asn Asn Phe Cys Gly
 180 185 190
 Pro Asp Gly Tyr Pro Leu Asp Cys Ile Lys Asp Phe Leu Ala Arg Ala
 195 200 205

SEQLIST-20480.TXT

Gly Lys Ser Met Cys Thr Leu Ser Glu Gln Leu Asp Tyr Ile Glu Ser
 210 215 220
 Lys Arg Gly Val Tyr Cys Cys Arg Asp His Glu His Glu Ile Ala Trp
 225 230 240
 Phe Thr Glu Arg Ser Asp Lys Ser Tyr Glu His Gln Thr Pro Phe Glu
 245 250 255
 Ile Lys Ser Ala Lys Lys Phe Asp Thr Phe Lys Gly Glu Cys Pro Lys
 260 265 270
 Phe Val Phe Pro Leu Asn Ser Lys Val Lys Val Ile Gln Pro Arg Val
 275 280 285
 Glu Lys Lys Lys Thr Glu Gly Phe Met Gly Arg Ile Arg Ser Val Tyr
 290 295 300
 Pro Val Ala Ser Pro Gln Glu Cys Asn Asn Met His Leu Ser Thr Leu
 305 310 315 320
 Met Lys Cys Asn His Cys Asp Glu Val Ser Trp Gln Thr Cys Asp Phe
 325 330 335
 Leu Lys Ala Thr Cys Glu His Cys Gly Thr Glu Asn Leu Val Ile Glu
 340 345 350
 Gly Pro Thr Thr Cys Gly Tyr Leu Pro Thr Asn Ala Val Val Lys Met
 355 360 365
 Pro Cys Pro Ala Cys Gln Asp Pro Glu Ile Gly Pro Glu His Ser Val
 370 375 380
 Ala Asp Tyr His Asn His Ser Asn Ile Glu Thr Arg Leu Arg Lys Gly
 385 390 395 400
 Gly Arg Thr Arg Cys Phe Gly Gly Cys Val Phe Ala Tyr Val Gly Cys
 405 410 415
 Tyr Asn Lys Arg Ala Tyr Trp Val Pro Arg Ala Ser Ala Asp Ile Gly
 420 425 430
 Ser Gly His Thr Gly Ile Thr Gly Asp Asn Val Glu Thr Leu Asn Glu
 435 440 445
 Asp Leu Leu Glu Ile Leu Ser Arg Glu Arg Val Asn Ile Asn Ile Val
 450 455 460
 Gly Asp Phe His Leu Asn Glu Glu Val Ala Ile Ile Leu Ala Ser Phe
 465 470 475 480
 Ser Ala Ser Thr Ser Ala Phe Ile Asp Thr Ile Lys Ser Leu Asp Tyr
 485 490 495
 Lys Ser Phe Lys Thr Ile Val Glu Ser Cys Gly Asn Tyr Lys Val Thr
 500 505 510
 Lys Gly Lys Pro Val Lys Gly Ala Trp Asn Ile Gly Gln Gln Arg Ser
 515 520 525
 Val Leu Thr Pro Leu Cys Gly Phe Pro Ser Gln Ala Ala Gly Val Ile
 530 535 540

SEQLIST-20480.TXT

Arg Ser Ile Phe Ala Arg Thr Leu Asp Ala Ala Asn His Ser Ile Pro
 545 550 555 560
 Asp Leu Gln Arg Ala Ala Val Thr Ile Leu Asp Gly Ile Ser Glu Gln
 565 570 575
 Ser Leu Arg Leu Val Asp Ala Met Val Tyr Thr Ser Asp Leu Leu Thr
 580 585 590
 Asn Ser Val Ile Ile Met Ala Tyr Val Thr Gly Gly Leu Val Gln Gln
 595 600 605
 Thr Ser Gln Trp Leu Ser Asn Leu Leu Gly Thr Thr Val Glu Lys Leu
 610 615 620
 Arg Pro Ile Phe Glu Trp Ile Glu Ala Lys Leu Ser Ala Gly Val Glu
 625 630 635 640
 Phe Leu Lys Asp Ala Trp Glu Ile Leu Lys Phe Leu Ile Thr Gly Val
 645 650 655
 Phe Asp Ile Val Lys Gly Gln Ile Gln Val Ala Ser Asp Asn Ile Lys
 660 665 670
 Asp Cys Val Lys Cys Phe Ile Asp Val Val Asn Lys Ala Leu Glu Met
 675 680 685
 Cys Ile Asp Gln Val Thr Ile Ala Gly Ala Lys Leu Arg Ser Leu Asn
 690 695 700
 Leu Gly Glu Val Phe Ile Ala Gln Ser Lys Gly Leu Tyr Arg Gln Cys
 705 710 715 720
 Ile Arg Gly Lys Glu Gln Leu Gln Leu Leu Met Pro Leu Lys Ala Pro
 725 730 735
 Lys Glu Val Thr Phe Leu Glu Gly Asp Ser His Asp Thr Val Leu Thr
 740 745 750
 Ser Glu Glu Val Val Leu Lys Asn Gly Glu Leu Glu Ala Leu Glu Thr
 755 760 765
 Pro Val Asp Ser Phe Thr Asn Gly Ala Ile Val Gly Thr Pro Val Cys
 770 775 780
 Val Asn Gly Leu Met Leu Leu Glu Ile Lys Asp Lys Glu Gln Tyr Cys
 785 790 795 800
 Ala Leu Ser Pro Gly Leu Leu Ala Thr Asn Asn Val Phe Arg Leu Lys
 805 810 815
 Gly Gly Ala Pro Ile Lys Gly Val Thr Phe Gly Glu Asp Thr Val Trp
 820 825 830
 Glu Val Gln Gly Tyr Lys Asn Val Arg Ile Thr Phe Glu Leu Asp Glu
 835 840 845
 Arg Val Asp Lys Val Leu Asn Glu Lys Cys Ser Val Tyr Thr Val Glu
 850 855 860
 Ser Gly Thr Glu Val Thr Glu Phe Ala Cys Val Val Ala Glu Ala Val
 865 870 875 880

SEQLIST-20480.TXT

Val Lys Thr Leu Gln Pro Val Ser Asp Leu Leu Thr Asn Met Gly Ile
 885 890 895
 Asp Leu Asp Glu Trp Ser Val Ala Thr Phe Tyr Leu Phe Asp Asp Ala
 900 905 910
 Gly Glu Glu Asn Phe Ser Ser Arg Met Tyr Cys Ser Phe Tyr Pro Pro
 915 920 925
 Asp Glu Glu Glu Glu Asp Asp Ala Glu Cys Glu Glu Glu Ile Asp
 930 935 940
 Glu Thr Cys Glu His Glu Tyr Gly Thr Glu Asp Asp Tyr Gln Gly Leu
 945 950 955 960
 Pro Leu Glu Phe Gly Ala Ser Ala Glu Thr Val Arg Val Glu Glu Glu
 965 970 975
 Glu Glu Glu Asp Trp Leu Asp Asp Thr Thr Glu Gln Ser Glu Ile Glu
 980 985 990
 Pro Glu Pro Glu Pro Thr Pro Glu Glu Pro Val Asn Gln Phe Thr Gly
 995 1000 1005
 Tyr Leu Lys Leu Thr Asp Asn Val Ala Ile Lys Cys Val Asp Ile Val
 1010 1015 1020
 Lys Glu Ala Gln Ser Ala Asn Pro Met Val Ile Val Asn Ala Ala Asn
 1025 1030 1035 1040
 Ile His Leu Lys His Gly Gly Gly Val Ala Gly Ala Leu Asn Lys Ala
 1045 1050 1055
 Thr Asn Gly Ala Met Gln Lys Glu Ser Asp Asp Tyr Ile Lys Leu Asn
 1060 1065 1070
 Gly Pro Leu Thr Val Gly Gly Ser Cys Leu Leu Ser Gly His Asn Leu
 1075 1080 1085
 Ala Lys Lys Cys Leu His Val Val Gly Pro Asn Leu Asn Ala Gly Glu
 1090 1095 1100
 Asp Ile Gln Leu Leu Lys Ala Ala Tyr Glu Asn Phe Asn Ser Gln Asp
 1105 1110 1115 1120
 Ile Leu Leu Ala Pro Leu Leu Ser Ala Gly Ile Phe Gly Ala Lys Pro
 1125 1130 1135
 Leu Gln Ser Leu Gln Val Cys Val Gln Thr Val Arg Thr Gln Val Tyr
 1140 1145 1150
 Ile Ala Val Asn Asp Lys Ala Leu Tyr Glu Gln Val Val Met Asp Tyr
 1155 1160 1165
 Leu Asp Asn Leu Lys Pro Arg Val Glu Ala Pro Lys Gln Glu Glu Pro
 1170 1175 1180
 Pro Asn Thr Glu Asp Ser Lys Thr Glu Glu Lys Ser Val Val Gln Lys
 1185 1190 1195 1200
 Pro Val Asp Val Lys Pro Lys Ile Lys Ala Cys Ile Asp Glu Val Thr
 1205 1210 1215

SEQLIST-20480.TXT

Thr Thr Leu Glu Glu Thr Lys Phe Leu Thr Asn Lys Leu Leu Leu Phe
1220 1225 1230
Ala Asp Ile Asn Gly Lys Leu Tyr His Asp Ser Gln Asn Met Leu Arg
1235 1240 1245
Gly Glu Asp Met Ser Phe Leu Glu Lys Asp Ala Pro Tyr Met Val Gly
1250 1255 1260
Asp Val Ile Thr Ser Gly Asp Ile Thr Cys Val Val Ile Pro Ser Lys
1265 1270 1275 1280
Lys Ala Gly Gly Thr Thr Glu Met Leu Ser Arg Ala Leu Lys Lys Val
1285 1290 1295
Pro Val Asp Glu Tyr Ile Thr Thr Tyr Pro Gly Gln Gly Cys Ala Gly
1300 1305 1310
Tyr Thr Leu Glu Glu Ala Lys Thr Ala Leu Lys Lys Cys Lys Ser Ala
1315 1320 1325
Phe Tyr Val Leu Pro Ser Glu Ala Pro Asn Ala Lys Glu Glu Ile Leu
1330 1335 1340
Gly Thr Val Ser Trp Asn Leu Arg Glu Met Leu Ala His Ala Glu Glu
1345 1350 1355 1360
Thr Arg Lys Leu Met Pro Ile Cys Met Asp Val Arg Ala Ile Met Ala
1365 1370 1375
Thr Ile Gln Arg Lys Tyr Lys Gly Ile Lys Ile Gln Glu Gly Ile Val
1380 1385 1390
Asp Tyr Gly Val Arg Phe Phe Phe Tyr Thr Ser Lys Glu Pro Val Ala
1395 1400 1405
Ser Ile Ile Thr Lys Leu Asn Ser Leu Asn Glu Pro Leu Val Thr Met
1410 1415 1420
Pro Ile Gly Tyr Val Thr His Gly Phe Asn Leu Glu Glu Ala Ala Arg
1425 1430 1435 1440
Cys Met Arg Ser Leu Lys Ala Pro Ala Val Val Ser Val Ser Ser Pro
1445 1450 1455
Asp Ala Val Thr Thr Tyr Asn Gly Tyr Leu Thr Ser Ser Ser Lys Thr
1460 1465 1470
Ser Glu Glu His Phe Val Glu Thr Val Ser Leu Ala Gly Ser Tyr Arg
1475 1480 1485
Asp Trp Ser Tyr Ser Gly Gln Arg Thr Glu Leu Gly Val Glu Phe Leu
1490 1495 1500
Lys Arg Gly Asp Lys Ile Val Tyr His Thr Leu Glu Ser Pro Val Glu
1505 1510 1515 1520
Phe His Leu Asp Gly Glu Val Leu Ser Leu Asp Lys Leu Lys Ser Leu
1525 1530 1535
Leu Ser Leu Arg Glu Val Lys Thr Ile Lys Val Phe Thr Thr Val Asp
1540 1545 1550

SEQLIST-20480.TXT

Asn Thr Asn Leu His Thr Gln Leu Val Asp Met Ser Met Thr Tyr Gly
 1555 1560 1565
 Gln Gln Phe Gly Pro Thr Tyr Leu Asp Gly Ala Asp Val Thr Lys Ile
 1570 1575 1580
 Lys Pro His Val Asn His Glu Gly Lys Thr Phe Phe Val Leu Pro Ser
 1585 1590 1595 1600
 Asp Asp Thr Leu Arg Ser Glu Ala Phe Glu Tyr Tyr His Thr Leu Asp
 1605 1610 1615
 Glu Ser Phe Leu Gly Arg Tyr Met Ser Ala Leu Asn His Thr Lys Lys
 1620 1625 1630
 Trp Lys Phe Pro Gln Val Gly Gly Leu Thr Ser Ile Lys Trp Ala Asp
 1635 1640 1645
 Asn Asn Cys Tyr Leu Ser Ser Val Leu Leu Ala Leu Gln Gln Leu Glu
 1650 1655 1660
 Val Lys Phe Asn Ala Pro Ala Leu Gln Glu Ala Tyr Tyr Arg Ala Arg
 1665 1670 1675 1680
 Ala Gly Asp Ala Ala Asn Phe Cys Ala Leu Ile Leu Ala Tyr Ser Asn
 1685 1690 1695
 Lys Thr Val Gly Glu Leu Gly Asp Val Arg Glu Thr Met Thr His Leu
 1700 1705 1710
 Leu Gln His Ala Asn Leu Glu Ser Ala Lys Arg Val Leu Asn Val Val
 1715 1720 1725
 Cys Lys His Cys Gly Gln Lys Thr Thr Thr Leu Thr Gly Val Glu Ala
 1730 1735 1740
 Val Met Tyr Met Gly Thr Leu Ser Tyr Asp Asn Leu Lys Thr Gly Val
 1745 1750 1755 1760
 Ser Ile Pro Cys Val Cys Gly Arg Asp Ala Thr Gln Tyr Leu Val Gln
 1765 1770 1775
 Gln Glu Ser Ser Phe Val Met Met Ser Ala Pro Pro Ala Glu Tyr Lys
 1780 1785 1790
 Leu Gln Gln Gly Thr Phe Leu Cys Ala Asn Glu Tyr Thr Gly Asn Tyr
 1795 1800 1805
 Gln Cys Gly His Tyr Thr His Ile Thr Ala Lys Glu Thr Leu Tyr Arg
 1810 1815 1820
 Ile Asp Gly Ala His Leu Thr Lys Met Ser Glu Tyr Lys Gly Pro Val
 1825 1830 1835 1840
 Thr Asp Val Phe Tyr Lys Glu Thr Ser Tyr Thr Thr Thr Ile Lys Pro
 1845 1850 1855
 Val Ser Tyr Lys Leu Asp Gly Val Thr Tyr Thr Glu Ile Glu Pro Lys
 1860 1865 1870
 Leu Asp Gly Tyr Tyr Lys Lys Asp Asn Ala Tyr Tyr Thr Glu Gln Pro
 1875 1880 1885

SEQLIST-20480.TXT

Ile Asp Leu Val Pro Thr Gln Pro Leu Pro Asn Ala Ser Phe Asp Asn
1890 1895 1900

Phe Lys Leu Thr Cys Ser Asn Thr Lys Phe Ala Asp Asp Leu Asn Gln
1905 1910 1915 1920

Met Thr Gly Phe Thr Lys Pro Ala Ser Arg Glu Leu Ser Val Thr Phe
1925 1930 1935

Phe Pro Asp Leu Asn Gly Asp Val Val Ala Ile Asp Tyr Arg His Tyr
1940 1945 1950

Ser Ala Ser Phe Lys Lys Gly Ala Lys Leu Leu His Lys Pro Ile Val
1955 1960 1965

Trp His Ile Asn Gln Ala Thr Thr Lys Thr Thr Phe Lys Pro Asn Thr
1970 1975 1980

Trp Cys Leu Arg Cys Leu Trp Ser Thr Lys Pro Val Asp Thr Ser Asn
1985 1990 1995 2000

Ser Phe Glu Val Leu Ala Val Glu Asp Thr Gln Gly Met Asp Asn Leu
2005 2010 2015

Ala Cys Glu Ser Gln Gln Pro Thr Ser Glu Glu Val Val Glu Asn Pro
2020 2025 2030

Thr Ile Gln Lys Glu Val Ile Glu Cys Asp Val Lys Thr Thr Glu Val
2035 2040 2045

Val Gly Asn Val Ile Leu Lys Pro Ser Asp Glu Gly Val Lys Val Thr
2050 2055 2060

Gln Glu Leu Gly His Glu Asp Leu Met Ala Ala Tyr Val Glu Asn Thr
2065 2070 2075 2080

Ser Ile Thr Ile Lys Lys Pro Asn Glu Leu Ser Leu Ala Leu Gly Leu
2085 2090 2095

Lys Thr Ile Ala Thr His Gly Ile Ala Ala Ile Asn Ser Val Pro Trp
2100 2105 2110

Ser Lys Ile Leu Ala Tyr Val Lys Pro Phe Leu Gly Gln Ala Ala Ile
2115 2120 2125

Thr Thr Ser Asn Cys Ala Lys Arg Leu Ala Gln Arg Val Phe Asn Asn
2130 2135 2140

Tyr Met Pro Tyr Val Phe Thr Leu Leu Phe Gln Leu Cys Thr Phe Thr
2145 2150 2155 2160

Lys Ser Thr Asn Ser Arg Ile Arg Ala Ser Leu Pro Thr Thr Ile Ala
2165 2170 2175

Lys Asn Ser Val Lys Ser Val Ala Lys Leu Cys Leu Asp Ala Gly Ile
2180 2185 2190

Asn Tyr Val Lys Ser Pro Lys Phe Ser Lys Leu Phe Thr Ile Ala Met
2195 2200 2205

Trp Leu Leu Leu Leu Ser Ile Cys Leu Gly Ser Leu Ile Cys Val Thr
2210 2215 2220

SEQLIST-20480.TXT

Ala Ala Phe Gly Val Leu Leu Ser Asn Phe Gly Ala Pro Ser Tyr Cys
2225 2230 2235 2240

Asn Gly Val Arg Glu Leu Tyr Leu Asn Ser Ser Asn Val Thr Thr Met
2245 2250 2255

Asp Phe Cys Glu Gly Ser Phe Pro Cys Ser Ile Cys Leu Ser Gly Leu
2260 2265 2270

Asp Ser Leu Asp Ser Tyr Pro Ala Leu Glu Thr Ile Gln Val Thr Ile
2275 2280 2285

Ser Ser Tyr Lys Leu Asp Leu Thr Ile Leu Gly Leu Ala Ala Glu Trp
2290 2295 2300

Val Leu Ala Tyr Met Leu Phe Thr Lys Phe Phe Tyr Leu Leu Gly Leu
2305 2310 2315 2320

Ser Ala Ile Met Gln Val Phe Phe Gly Tyr Phe Ala Ser His Phe Ile
2325 2330 2335

Ser Asn Ser Trp Leu Met Trp Phe Ile Ile Ser Ile Val Gln Met Ala
2340 2345 2350

Pro Val Ser Ala Met Val Arg Met Tyr Ile Phe Phe Ala Ser Phe Tyr
2355 2360 2365

Tyr Ile Trp Lys Ser Tyr Val His Ile Met Asp Gly Cys Thr Ser Ser
2370 2375 2380

Thr Cys Met Met Cys Tyr Lys Arg Asn Arg Ala Thr Arg Val Glu Cys
2385 2390 2395 2400

Thr Thr Ile Val Asn Gly Met Lys Arg Ser Phe Tyr Val Tyr Ala Asn
2405 2410 2415

Gly Gly Arg Gly Phe Cys Lys Thr His Asn Trp Asn Cys Leu Asn Cys
2420 2425 2430

Asp Thr Phe Cys Thr Gly Ser Thr Phe Ile Ser Asp Glu Val Ala Arg
2435 2440 2445

Asp Leu Ser Leu Gln Phe Lys Arg Pro Ile Asn Pro Thr Asp Gln Ser
2450 2455 2460

Ser Tyr Ile Val Asp Ser Val Ala Val Lys Asn Gly Ala Leu His Leu
2465 2470 2475 2480

Tyr Phe Asp Lys Ala Gly Gln Lys Thr Tyr Glu Arg His Pro Leu Ser
2485 2490 2495

His Phe Val Asn Leu Asp Asn Leu Arg Ala Asn Asn Thr Lys Gly Ser
2500 2505 2510

Leu Pro Ile Asn Val Ile Val Phe Asp Gly Lys Ser Lys Cys Asp Glu
2515 2520 2525

Ser Ala Ser Lys Ser Ala Ser Val Tyr Tyr Ser Gln Leu Met Cys Gln
2530 2535 2540

Pro Ile Leu Leu Leu Asp Gln Ala Leu Val Ser Asp Val Gly Asp Ser
2545 2550 2555 2560

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Thr Glu Val Ser Val Lys Met Phe Asp Ala Tyr Val Asp Thr Phe Ser
 2565 2570 2575
 Ala Thr Phe Ser Val Pro Met Glu Lys Leu Lys Ala Leu Val Ala Thr
 2580 2585 2590
 Ala His Ser Glu Leu Ala Lys Gly Val Ala Leu Asp Gly Val Leu Ser
 2595 2600 2605
 Thr Phe Val Ser Ala Ala Arg Gln Gly Val Val Asp Thr Asp Val Asp
 2610 2615 2620
 Thr Lys Asp Val Ile Glu Cys Leu Lys Leu Ser His His Ser Asp Leu
 2625 2630 2635 2640
 Glu Val Thr Gly Asp Ser Cys Asn Asn Phe Met Leu Thr Tyr Asn Lys
 2645 2650 2655
 Val Glu Asn Met Thr Pro Arg Asp Leu Gly Ala Cys Ile Asp Cys Asn
 2660 2665 2670
 Ala Arg His Ile Asn Ala Gln Val Ala Lys Ser His Asn Val Ser Leu
 2675 2680 2685
 Ile Trp Asn Val Lys Asp Tyr Met Ser Leu Ser Glu Gln Leu Arg Lys
 2690 2695 2700
 Gln Ile Arg Ser Ala Ala Lys Lys Asn Asn Ile Pro Phe Arg Leu Thr
 2705 2710 2715 2720
 Cys Ala Thr Thr Arg Gln Val Val Asn Val Ile Thr Thr Lys Ile Ser
 2725 2730 2735
 Leu Lys Gly Gly Lys Ile Val Ser Thr Cys Phe Lys Leu Met Leu Lys
 2740 2745 2750
 Ala Thr Leu Leu Cys Val Leu Ala Ala Leu Val Cys Tyr Ile Val Met
 2755 2760 2765
 Pro Val His Thr Leu Ser Ile His Asp Gly Tyr Thr Asn Glu Ile Ile
 2770 2775 2780
 Gly Tyr Lys Ala Ile Gln Asp Gly Val Thr Arg Asp Ile Ile Ser Thr
 2785 2790 2795 2800
 Asp Asp Cys Phe Ala Asn Lys His Ala Gly Phe Asp Ala Trp Phe Ser
 2805 2810 2815
 Gln Arg Gly Gly Ser Tyr Lys Asn Asp Lys Ser Cys Pro Val Val Ala
 2820 2825 2830
 Ala Ile Ile Thr Arg Glu Ile Gly Phe Ile Val Pro Gly Leu Pro Gly
 2835 2840 2845
 Thr Val Leu Arg Ala Ile Asn Gly Asp Phe Leu His Phe Leu Pro Arg
 2850 2855 2860
 Val Phe Ser Ala Val Gly Asn Ile Cys Tyr Thr Pro Ser Lys Leu Ile
 2865 2870 2875 2880
 Glu Tyr Ser Asp Phe Ala Thr Ser Ala Cys Val Leu Ala Ala Glu Cys
 2885 2890 2895

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Thr Ile Phe Lys Asp Ala Met Gly Lys Pro Val Pro Tyr Cys Tyr Asp
 2900 2905 2910
 Thr Asn Leu Leu Glu Gly Ser Ile Ser Tyr Ser Glu Leu Arg Pro Asp
 2915 2920 2925
 Thr Arg Tyr Val Leu Met Asp Gly Ser Ile Ile Gln Phe Pro Asn Thr
 2930 2935 2940
 Tyr Leu Glu Gly Ser Val Arg Val Val Thr Thr Phe Asp Ala Glu Tyr
 2945 2950 2955 2960
 Cys Arg His Gly Thr Cys Glu Arg Ser Glu Val Gly Ile Cys Leu Ser
 2965 2970 2975
 Thr Ser Gly Arg Trp Val Leu Asn Asn Glu His Tyr Arg Ala Leu Ser
 2980 2985 2990
 Gly Val Phe Cys Gly Val Asp Ala Met Asn Leu Ile Ala Asn Ile Phe
 2995 3000 3005
 Thr Pro Leu Val Gln Pro Val Gly Ala Leu Asp Val Ser Ala Ser Val
 3010 3015 3020
 Val Ala Gly Gly Ile Ile Ala Ile Leu Val Thr Cys Ala Ala Tyr Tyr
 3025 3030 3035 3040
 Phe Met Lys Phe Arg Arg Val Phe Gly Glu Tyr Asn His Val Val Ala
 3045 3050 3055
 Ala Asn Ala Leu Leu Phe Leu Met Ser Phe Thr Ile Leu Cys Leu Val
 3060 3065 3070
 Pro Ala Tyr Ser Phe Leu Pro Gly Val Tyr Ser Val Phe Tyr Leu Tyr
 3075 3080 3085
 Leu Thr Phe Tyr Phe Thr Asn Asp Val Ser Phe Leu Ala His Leu Gln
 3090 3095 3100
 Trp Phe Ala Met Phe Ser Pro Ile Val Pro Phe Trp Ile Thr Ala Ile
 3105 3110 3115 3120
 Tyr Val Phe Cys Ile Ser Leu Lys His Cys His Trp Phe Phe Asn Asn
 3125 3130 3135
 Tyr Leu Arg Lys Arg Val Met Phe Asn Gly Val Thr Phe Ser Thr Phe
 3140 3145 3150
 Glu Glu Ala Ala Leu Cys Thr Phe Leu Leu Asn Lys Glu Met Tyr Leu
 3155 3160 3165
 Lys Leu Arg Ser Glu Thr Leu Leu Pro Leu Thr Gln Tyr Asn Arg Tyr
 3170 3175 3180
 Leu Ala Leu Tyr Asn Lys Tyr Lys Tyr Phe Ser Gly Ala Leu Asp Thr
 3185 3190 3195 3200
 Thr Ser Tyr Arg Glu Ala Ala Cys Cys His Leu Ala Lys Ala Leu Asn
 3205 3210 3215
 Asp Phe Ser Asn Ser Gly Ala Asp Val Leu Tyr Gln Pro Pro Gln Thr
 3220 3225 3230

SEQLIST-20480.TXT

Ser Ile Thr Ser Ala Val Leu Gln Ser Gly Phe Arg Lys Met Ala Phe
3235 3240 3245

Pro Ser Gly Lys Val Glu Gly Cys Met Val Gln Val Thr Cys Gly Thr
3250 3255 3260

Thr Thr Leu Asn Gly Leu Trp Leu Asp Asp Thr Val Tyr Cys Pro Arg
3265 3270 3275 3280

His Val Ile Cys Thr Ala Glu Asp Met Leu Asn Pro Asn Tyr Glu Asp
3285 3290 3295

Leu Leu Ile Arg Lys Ser Asn His Ser Phe Leu Val Gln Ala Gly Asn
3300 3305 3310

Val Gln Leu Arg Val Ile Gly His Ser Met Gln Asn Cys Leu Leu Arg
3315 3320 3325

Leu Lys Val Asp Thr Ser Asn Pro Lys Thr Pro Lys Tyr Lys Phe Val
3330 3335 3340

Arg Ile Gln Pro Gly Gln Thr Phe Ser Val Leu Ala Cys Tyr Asn Gly
3345 3350 3355 3360

Ser Pro Ser Gly Val Tyr Gln Cys Ala Met Arg Pro Asn His Thr Ile
3365 3370 3375

Lys Gly Ser Phe Leu Asn Gly Ser Cys Gly Ser Val Gly Phe Asn Ile
3380 3385 3390

Asp Tyr Asp Cys Val Ser Phe Cys Tyr Met His His Met Glu Leu Pro
3395 3400 3405

Thr Gly Val His Ala Gly Thr Asp Leu Glu Gly Lys Phe Tyr Gly Pro
3410 3415 3420

Phe Val Asp Arg Gln Thr Ala Gln Ala Ala Gly Thr Asp Thr Thr Ile
3425 3430 3435 3440

Thr Leu Asn Val Leu Ala Trp Leu Tyr Ala Ala Val Ile Asn Gly Asp
3445 3450 3455

Arg Trp Phe Leu Asn Arg Phe Thr Thr Thr Leu Asn Asp Phe Asn Leu
3460 3465 3470

Val Ala Met Lys Tyr Asn Tyr Glu Pro Leu Thr Gln Asp His Val Asp
3475 3480 3485

Ile Leu Gly Pro Leu Ser Ala Gln Thr Gly Ile Ala Val Leu Asp Met
3490 3495 3500

Cys Ala Ala Leu Lys Glu Leu Leu Gln Asn Gly Met Asn Gly Arg Thr
3505 3510 3515 3520

Ile Leu Gly Ser Thr Ile Leu Glu Asp Glu Phe Thr Pro Phe Asp Val
3525 3530 3535

Val Arg Gln Cys Ser Gly Val Thr Phe Gln Gly Lys Phe Lys Lys Ile
3540 3545 3550

Val Lys Gly Thr His His Trp Met Leu Leu Thr Phe Leu Thr Ser Leu
3555 3560 3565

SEQLIST-20480.TXT

Leu Ile Leu Val Gln Ser Thr Gln Trp Ser Leu Phe Phe Phe Val Tyr
 3570 3575 3580
 Glu Asn Ala Phe Leu Pro Phe Thr Leu Gly Ile Met Ala Ile Ala Ala
 3585 3590 3595 3600
 Cys Ala Met Leu Leu Val Lys His Lys His Ala Phe Leu Cys Leu Phe
 3605 3610 3615
 Leu Leu Pro Ser Leu Ala Thr Val Ala Tyr Phe Asn Met Val Tyr Met
 3620 3625 3630
 Pro Ala Ser Trp Val Met Arg Ile Met Thr Trp Leu Glu Leu Ala Asp
 3635 3640 3645
 Thr Ser Leu Ser Gly Tyr Arg Leu Lys Asp Cys Val Met Tyr Ala Ser
 3650 3655 3660
 Ala Leu Val Leu Leu Ile Leu Met Thr Ala Arg Thr Val Tyr Asp Asp
 3665 3670 3675 3680
 Ala Ala Arg Arg Val Trp Thr Leu Met Asn Val Ile Thr Leu Val Tyr
 3685 3690 3695
 Lys Val Tyr Tyr Gly Asn Ala Leu Asp Gln Ala Ile Ser Met Trp Ala
 3700 3705 3710
 Leu Val Ile Ser Val Thr Ser Asn Tyr Ser Gly Val Val Thr Thr Ile
 3715 3720 3725
 Met Phe Leu Ala Arg Ala Ile Val Phe Val Cys Val Glu Tyr Tyr Pro
 3730 3735 3740
 Leu Leu Phe Ile Thr Gly Asn Thr Leu Gln Cys Ile Met Leu Val Tyr
 3745 3750 3755 3760
 Cys Phe Leu Gly Tyr Cys Cys Cys Cys Tyr Phe Gly Leu Phe Cys Leu
 3765 3770 3775
 Leu Asn Arg Tyr Phe Arg Leu Thr Leu Gly Val Tyr Asp Tyr Leu Val
 3780 3785 3790
 Ser Thr Gln Glu Phe Arg Tyr Met Asn Ser Gln Gly Leu Leu Pro Pro
 3795 3800 3805
 Lys Ser Ser Ile Asp Ala Phe Lys Leu Asn Ile Lys Leu Leu Gly Ile
 3810 3815 3820
 Gly Gly Lys Pro Cys Ile Lys Val Ala Thr Val Gln Ser Lys Met Ser
 3825 3830 3835 3840
 Asp Val Lys Cys Thr Ser Val Val Leu Leu Ser Val Leu Gln Gln Leu
 3845 3850 3855
 Arg Val Glu Ser Ser Ser Lys Leu Trp Ala Gln Cys Val Gln Leu His
 3860 3865 3870
 Asn Asp Ile Leu Leu Ala Lys Asp Thr Thr Glu Ala Phe Glu Lys Met
 3875 3880 3885
 Val Ser Leu Leu Ser Val Leu Leu Ser Met Gln Gly Ala Val Asp Ile
 3890 3895 3900

SEQLIST-20480.TXT

Asn Arg Leu Cys Glu Glu Met Leu Asp Asn Arg Ala Thr Leu Gln Ala
 3905 3910 3915 3920
 Ile Ala Ser Glu Phe Ser Ser Leu Pro Ser Tyr Ala Ala Tyr Ala Thr
 3925 3930 3935
 Ala Gln Glu Ala Tyr Glu Gln Ala Val Ala Asn Gly Asp Ser Glu Val
 3940 3945 3950
 Val Leu Lys Lys Leu Lys Lys Ser Leu Asn Val Ala Lys Ser Glu Phe
 3955 3960 3965
 Asp Arg Asp Ala Ala Met Gln Arg Lys Leu Glu Lys Met Ala Asp Gln
 3970 3975 3980
 Ala Met Thr Gln Met Tyr Lys Gln Ala Arg Ser Glu Asp Lys Arg Ala
 3985 3990 3995 4000
 Lys Val Thr Ser Ala Met Gln Thr Met Leu Phe Thr Met Leu Arg Lys
 4005 4010 4015
 Leu Asp Asn Asp Ala Leu Asn Asn Ile Ile Asn Asn Ala Arg Asp Gly
 4020 4025 4030
 Cys Val Pro Leu Asn Ile Ile Pro Leu Thr Thr Ala Ala Lys Leu Met
 4035 4040 4045
 Val Val Val Pro Asp Tyr Gly Thr Tyr Lys Asn Thr Cys Asp Gly Asn
 4050 4055 4060
 Thr Phe Thr Tyr Ala Ser Ala Leu Trp Glu Ile Gln Gln Val Val Asp
 4065 4070 4075 4080
 Ala Asp Ser Lys Ile Val Gln Leu Ser Glu Ile Asn Met Asp Asn Ser
 4085 4090 4095
 Pro Asn Leu Ala Trp Pro Leu Ile Val Thr Ala Leu Arg Ala Asn Ser
 4100 4105 4110
 Ala Val Lys Leu Gln Asn Asn Glu Leu Ser Pro Val Ala Leu Arg Gln
 4115 4120 4125
 Met Ser Cys Ala Ala Gly Thr Thr Gln Thr Ala Cys Thr Asp Asp Asn
 4130 4135 4140
 Ala Leu Ala Tyr Tyr Asn Asn Ser Lys Gly Gly Arg Phe Val Leu Ala
 4145 4150 4155 4160
 Leu Leu Ser Asp His Gln Asp Leu Lys Trp Ala Arg Phe Pro Lys Ser
 4165 4170 4175
 Asp Gly Thr Gly Thr Ile Tyr Thr Glu Leu Glu Pro Pro Cys Arg Phe
 4180 4185 4190
 Val Thr Asp Thr Pro Lys Gly Pro Lys Val Lys Tyr Leu Tyr Phe Ile
 4195 4200 4205
 Lys Gly Leu Asn Asn Leu Asn Arg Gly Met Val Leu Gly Ser Leu Ala
 4210 4215 4220
 Ala Thr Val Arg Leu Gln Ala Gly Asn Ala Thr Glu Val Pro Ala Asn
 4225 4230 4235 4240

SEQLIST-20480.TXT

Ser Thr Val Leu Ser Phe Cys Ala Phe Ala Val Asp Pro Ala Lys Ala
4245 4250 4255

Tyr Lys Asp Tyr Leu Ala Ser Gly Gly Gln Pro Ile Thr Asn Cys Val
4260 4265 4270

Lys Met Leu Cys Thr His Thr Gly Thr Gly Gln Ala Ile Thr Val Thr
4275 4280 4285

Pro Glu Ala Asn Met Asp Gln Glu Ser Phe Gly Gly Ala Ser Cys Cys
4290 4295 4300

Leu Tyr Cys Arg Cys His Ile Asp His Pro Asn Pro Lys Gly Phe Cys
4305 4310 4315 4320

Asp Leu Lys Gly Lys Tyr Val Gln Ile Pro Thr Thr Cys Ala Asn Asp
4325 4330 4335

Pro Val Gly Phe Thr Leu Arg Asn Thr Val Cys Thr Val Cys Gly Met
4340 4345 4350

Trp Lys Gly Tyr Gly Cys Ser Cys Asp Gln Leu Arg Glu Pro Leu Met
4355 4360 4365

Gln Ser Ala Asp Ala Ser Thr Xaa Xaa Xaa Xaa Xaa Gly Val Ser Ala
4370 4375 4380

Ala Arg Leu Thr Pro Cys Gly Thr Gly Thr Ser Thr Asp Val Val Tyr
4385 4390 4395 4400

Arg Ala Phe Asp Ile Tyr Asn Glu Lys Val Ala Gly Phe Ala Lys Phe
4405 4410 4415

Leu Lys Thr Asn Cys Cys Arg Phe Gln Glu Lys Asp Glu Glu Gly Asn
4420 4425 4430

Leu Leu Asp Ser Tyr Phe Val Val Lys Arg His Thr Met Ser Asn Tyr
4435 4440 4445

Gln His Glu Glu Thr Ile Tyr Asn Leu Val Lys Asp Cys Pro Ala Val
4450 4455 4460

Ala Val His Asp Phe Phe Lys Phe Arg Val Asp Gly Asp Met Val Pro
4465 4470 4475 4480

His Ile Ser Arg Gln Arg Leu Thr Lys Tyr Thr Met Ala Asp Leu Val
4485 4490 4495

Tyr Ala Leu Arg His Phe Asp Glu Gly Asn Cys Asp Thr Leu Lys Glu
4500 4505 4510

Ile Leu Val Thr Tyr Asn Cys Cys Asp Asp Asp Tyr Phe Asn Lys Lys
4515 4520 4525

Asp Trp Tyr Asp Phe Val Glu Asn Pro Asp Ile Leu Arg Val Tyr Ala
4530 4535 4540

Asn Leu Gly Glu Arg Val Arg Gln Ser Leu Leu Lys Thr Val Gln Phe
4545 4550 4555 4560

Cys Asp Ala Met Arg Asp Ala Gly Ile Val Gly Val Leu Thr Leu Asp
4565 4570 4575

SEQLIST-20480.TXT

Asn Gln Asp Leu Asn Gly Asn Trp Tyr Asp Phe Gly Asp Phe Val Gln
 4580 4585 4590
 Val Ala Pro Gly Cys Gly Val Pro Ile Val Asp Ser Tyr Tyr Ser Leu
 4595 4600 4605
 Leu Met Pro Ile Leu Thr Leu Thr Arg Ala Leu Ala Ala Glu Ser His
 4610 4615 4620
 Met Asp Ala Asp Leu Ala Lys Pro Leu Ile Lys Trp Asp Leu Leu Lys
 4625 4630 4635 4640
 Tyr Asp Phe Thr Glu Glu Arg Leu Cys Leu Phe Asp Arg Tyr Phe Lys
 4645 4650 4655
 Tyr Trp Asp Gln Thr Tyr His Pro Asn Cys Ile Asn Cys Leu Asp Asp
 4660 4665 4670
 Arg Cys Ile Leu His Cys Ala Asn Phe Asn Val Leu Phe Ser Thr Val
 4675 4680 4685
 Phe Pro Pro Thr Ser Phe Gly Pro Leu Val Arg Lys Ile Phe Val Asp
 4690 4695 4700
 Gly Val Pro Phe Val Val Ser Thr Gly Tyr His Phe Arg Glu Leu Gly
 4705 4710 4715 4720
 Val Val His Asn Gln Asp Val Asn Leu His Ser Ser Arg Leu Ser Phe
 4725 4730 4735
 Lys Glu Leu Leu Val Tyr Ala Ala Asp Pro Ala Met His Ala Ala Ser
 4740 4745 4750
 Gly Asn Leu Leu Leu Asp Lys Arg Thr Thr Cys Phe Ser Val Ala Ala
 4755 4760 4765
 Leu Thr Asn Asn Val Ala Phe Gln Thr Val Lys Pro Gly Asn Phe Asn
 4770 4775 4780
 Lys Asp Phe Tyr Asp Phe Ala Val Ser Lys Gly Phe Phe Lys Glu Gly
 4785 4790 4795 4800
 Ser Ser Val Glu Leu Lys His Phe Phe Phe Ala Gln Asp Gly Asn Ala
 4805 4810 4815
 Ala Ile Ser Asp Tyr Asp Tyr Tyr Arg Tyr Asn Leu Pro Thr Met Cys
 4820 4825 4830
 Asp Ile Arg Gln Leu Leu Phe Val Val Glu Val Val Asp Lys Tyr Phe
 4835 4840 4845
 Asp Cys Tyr Asp Gly Gly Cys Ile Asn Ala Asn Gln Val Ile Val Asn
 4850 4855 4860
 Asn Leu Asp Lys Ser Ala Gly Phe Pro Phe Asn Lys Trp Gly Lys Ala
 4865 4870 4875 4880
 Arg Leu Tyr Tyr Asp Ser Met Ser Tyr Glu Asp Gln Asp Ala Leu Phe
 4885 4890 4895
 Ala Tyr Thr Lys Arg Asn Val Ile Pro Thr Ile Thr Gln Met Asn Leu
 4900 4905 4910

SEQLIST-20480.TXT

Lys Tyr Ala Ile Ser Ala Lys Asn Arg Ala Arg Thr Val Ala Gly Val
 4915 4920 4925
 Ser Ile Cys Ser Thr Met Thr Asn Arg Gln Phe His Gln Lys Leu Leu
 4930 4935 4940
 Lys Ser Ile Ala Ala Thr Arg Gly Ala Thr Val Val Ile Gly Thr Ser
 4945 4950 4955 4960
 Lys Phe Tyr Gly Gly Trp His Asn Met Leu Lys Thr Val Tyr Ser Asp
 4965 4970 4975
 Val Glu Thr Pro His Leu Met Gly Trp Asp Tyr Pro Lys Cys Asp Arg
 4980 4985 4990
 Ala Met Pro Asn Met Leu Arg Ile Met Ala Ser Leu Val Leu Ala Arg
 4995 5000 5005
 Lys His Asn Thr Cys Cys Asn Leu Ser His Arg Phe Tyr Arg Leu Ala
 5010 5015 5020
 Asn Glu Cys Ala Gln Val Leu Ser Glu Met Val Met Cys Gly Gly Ser
 5025 5030 5035 5040
 Leu Tyr Val Lys Pro Gly Gly Thr Ser Ser Gly Asp Ala Thr Thr Ala
 5045 5050 5055
 Tyr Ala Asn Ser Val Phe Asn Ile Cys Gln Ala Val Thr Ala Asn Val
 5060 5065 5070
 Asn Ala Leu Ser Thr Asp Gly Asn Lys Ile Ala Asp Lys Tyr Val
 5075 5080 5085
 Arg Asn Leu Gln His Arg Leu Tyr Glu Cys Leu Tyr Arg Asn Arg Asp
 5090 5095 5100
 Val Asp His Glu Phe Val Asp Glu Phe Tyr Ala Tyr Leu Arg Lys His
 5105 5110 5115 5120
 Phe Ser Met Met Ile Leu Ser Asp Asp Ala Val Val Cys Tyr Asn Ser
 5125 5130 5135
 Asn Tyr Ala Ala Gln Gly Leu Val Ala Ser Ile Lys Asn Phe Lys Ala
 5140 5145 5150
 Val Leu Tyr Tyr Gln Asn Asn Val Phe Met Ser Glu Ala Lys Cys Trp
 5155 5160 5165
 Thr Glu Thr Asp Leu Thr Lys Gly Pro His Glu Phe Cys Ser Gln His
 5170 5175 5180
 Thr Met Leu Val Lys Gln Gly Asp Asp Tyr Val Tyr Leu Pro Tyr Pro
 5185 5190 5195 5200
 Asp Pro Ser Arg Ile Leu Gly Ala Gly Cys Phe Val Asp Asp Ile Val
 5205 5210 5215
 Lys Thr Asp Gly Thr Leu Met Ile Glu Arg Phe Val Ser Leu Ala Ile
 5220 5225 5230
 Asp Ala Tyr Pro Leu Thr Lys His Pro Asn Gln Glu Tyr Ala Asp Val
 5235 5240 5245

SEQLIST-20480.TXT

Phe His Leu Tyr Leu Gln Tyr Ile Arg Lys Leu His Asp Glu Leu Thr
 5250 5255 5260
 Gly His Met Leu Asp Met Tyr Ser Val Met Leu Thr Asn Asp Asn Thr
 5265 5270 5275 5280
 Ser Arg Tyr Trp Glu Pro Glu Phe Tyr Glu Ala Met Tyr Thr Pro His
 5285 5290 5295
 Thr Val Leu Gln Ala Val Gly Ala Cys Val Leu Cys Asn Ser Gln Thr
 5300 5305 5310
 Ser Leu Arg Cys Gly Ala Cys Ile Arg Arg Pro Phe Leu Cys Cys Lys
 5315 5320 5325
 Cys Cys Tyr Asp His Val Ile Ser Thr Ser His Lys Leu Val Leu Ser
 5330 5335 5340
 Val Asn Pro Tyr Val Cys Asn Ala Pro Gly Cys Asp Val Thr Asp Val
 5345 5350 5355 5360
 Thr Gln Leu Tyr Leu Gly Gly Met Ser Tyr Tyr Cys Lys Ser His Lys
 5365 5370 5375
 Pro Pro Ile Ser Phe Pro Leu Cys Ala Asn Gly Gln Val Phe Gly Leu
 5380 5385 5390
 Tyr Lys Asn Thr Cys Val Gly Ser Asp Asn Val Thr Asp Phe Asn Ala
 5395 5400 5405
 Ile Ala Thr Cys Asp Trp Thr Asn Ala Gly Asp Tyr Ile Leu Ala Asn
 5410 5415 5420
 Thr Cys Thr Glu Arg Leu Lys Leu Phe Ala Ala Glu Thr Leu Lys Ala
 5425 5430 5435 5440
 Thr Glu Glu Thr Phe Lys Leu Ser Tyr Gly Ile Ala Thr Val Arg Glu
 5445 5450 5455
 Val Leu Ser Asp Arg Glu Leu His Leu Ser Trp Glu Val Gly Lys Pro
 5460 5465 5470
 Arg Pro Pro Leu Asn Arg Asn Tyr Val Phe Thr Gly Tyr Arg Val Thr
 5475 5480 5485
 Lys Asn Ser Lys Val Gln Ile Gly Glu Tyr Thr Phe Glu Lys Gly Asp
 5490 5495 5500
 Tyr Gly Asp Ala Val Val Tyr Arg Gly Thr Thr Thr Tyr Lys Leu Asn
 5505 5510 5515 5520
 Val Gly Asp Tyr Phe Val Leu Thr Ser His Thr Val Met Pro Leu Ser
 5525 5530 5535
 Ala Pro Thr Leu Val Pro Gln Glu His Tyr Val Arg Ile Thr Gly Leu
 5540 5545 5550
 Tyr Pro Thr Leu Asn Ile Ser Asp Glu Phe Ser Ser Asn Val Ala Asn
 5555 5560 5565
 Tyr Gln Lys Val Gly Met Gln Lys Tyr Ser Thr Leu Gln Gly Pro Pro
 5570 5575 5580

SEQLIST-20480.TXT

Gly Thr Gly Lys Ser His Phe Ala Ile Gly Leu Ala Leu Tyr Tyr Pro
 5585 5590 5595 5600
 Ser Ala Arg Ile Val Tyr Thr Ala Cys Ser His Ala Ala Val Asp Ala
 5605 5610 5615
 Leu Cys Glu Lys Ala Leu Lys Tyr Leu Pro Ile Asp Lys Cys Ser Arg
 5620 5625 5630
 Ile Ile Pro Ala Arg Ala Arg Val Glu Cys Phe Asp Lys Phe Lys Val
 5635 5640 5645
 Asn Ser Thr Leu Glu Gln Tyr Val Phe Cys Thr Val Asn Ala Leu Pro
 5650 5655 5660
 Glu Thr Thr Ala Asp Ile Val Val Phe Asp Glu Ile Ser Met Ala Thr
 5665 5670 5675 5680
 Asn Tyr Asp Leu Ser Val Val Asn Ala Arg Leu Arg Ala Lys His Tyr
 5685 5690 5695
 Val Tyr Ile Gly Asp Pro Ala Gln Leu Pro Ala Pro Arg Thr Leu Leu
 5700 5705 5710
 Thr Lys Gly Thr Leu Glu Pro Glu Tyr Phe Asn Ser Val Cys Arg Leu
 5715 5720 5725
 Met Lys Thr Ile Gly Pro Asp Met Phe Leu Gly Thr Cys Arg Arg Cys
 5730 5735 5740
 Pro Ala Glu Ile Val Asp Thr Val Ser Ala Leu Val Tyr Asp Asn Lys
 5745 5750 5755 5760
 Leu Lys Ala His Lys Asp Lys Ser Ala Gln Cys Phe Lys Met Phe Tyr
 5765 5770 5775
 Lys Gly Val Ile Thr His Asp Val Ser Ser Ala Ile Asn Arg Pro Gln
 5780 5785 5790
 Ile Gly Val Val Arg Glu Phe Leu Thr Arg Asn Pro Ala Trp Arg Lys
 5795 5800 5805
 Ala Val Phe Ile Ser Pro Tyr Asn Ser Gln Asn Ala Val Ala Ser Lys
 5810 5815 5820
 Ile Leu Gly Leu Pro Thr Gln Thr Val Asp Ser Ser Gln Gly Ser Glu
 5825 5830 5835 5840
 Tyr Asp Tyr Val Ile Phe Thr Gln Thr Thr Glu Thr Ala His Ser Cys
 5845 5850 5855
 Asn Val Asn Arg Phe Asn Val Ala Ile Thr Arg Ala Lys Ile Gly Ile
 5860 5865 5870
 Leu Cys Ile Met Ser Asp Arg Asp Leu Tyr Asp Lys Leu Gln Phe Thr
 5875 5880 5885
 Ser Leu Glu Ile Pro Arg Arg Asn Val Ala Thr Leu Gln Ala Glu Asn
 5890 5895 5900
 Val Thr Gly Leu Phe Lys Asp Cys Ser Lys Ile Ile Thr Gly Leu His
 5905 5910 5915 5920

SEQLIST-20480.TXT

Pro Thr Gln Ala Pro Thr His Leu Ser Val Asp Ile Lys Phe Lys Thr
5925 5930 5935

Glu Gly Leu Cys Val Asp Ile Pro Gly Ile Pro Lys Asp Met Thr Tyr
5940 5945 5950

Arg Arg Leu Ile Ser Met Met Gly Phe Lys Met Asn Tyr Gln Val Asn
5955 5960 5965

Gly Tyr Pro Asn Met Phe Ile Thr Arg Glu Glu Ala Ile Arg His Val
5970 5975 5980

Arg Ala Trp Ile Gly Phe Asp Val Glu Gly Cys His Ala Thr Arg Asp
5985 5990 5995 6000

Ala Val Gly Thr Asn Leu Pro Leu Gln Leu Gly Phe Ser Thr Gly Val
6005 6010 6015

Asn Leu Val Ala Val Pro Thr Gly Tyr Val Asp Thr Glu Asn Asn Thr
6020 6025 6030

Glu Phe Thr Arg Val Asn Ala Lys Pro Pro Pro Gly Asp Gln Phe Lys
6035 6040 6045

His Leu Ile Pro Leu Met Tyr Lys Gly Leu Pro Trp Asn Val Val Arg
6050 6055 6060

Ile Lys Ile Val Gln Met Leu Ser Asp Thr Leu Lys Gly Leu Ser Asp
6065 6070 6075 6080

Arg Val Val Phe Val Leu Trp Ala His Gly Phe Glu Leu Thr Ser Met
6085 6090 6095

Lys Tyr Phe Val Lys Ile Gly Pro Glu Arg Thr Cys Cys Leu Cys Asp
6100 6105 6110

Lys Arg Ala Thr Cys Phe Ser Thr Ser Ser Asp Thr Tyr Ala Cys Trp
6115 6120 6125

Asn His Ser Val Gly Phe Asp Tyr Val Tyr Asn Pro Phe Met Ile Asp
6130 6135 6140

Val Gln Gln Trp Gly Phe Thr Gly Asn Leu Gln Ser Asn His Asp Gln
6145 6150 6155 6160

His Cys Gln Val His Gly Asn Ala His Val Ala Ser Cys Asp Ala Ile
6165 6170 6175

Met Thr Arg Cys Leu Ala Val His Glu Cys Phe Val Lys Arg Val Asp
6180 6185 6190

Trp Ser Val Glu Tyr Pro Ile Ile Gly Asp Glu Leu Arg Val Asn Ser
6195 6200 6205

Ala Cys Arg Lys Val Gln His Met Val Val Lys Ser Ala Leu Leu Ala
6210 6215 6220

Asp Lys Phe Pro Val Leu His Asp Ile Gly Asn Pro Lys Ala Ile Lys
6225 6230 6235 6240

Cys Val Pro Gln Ala Glu Val Glu Trp Lys Phe Tyr Asp Ala Gln Pro
6245 6250 6255

SEQLIST-20480.TXT

Cys Ser Asp Lys Ala Tyr Lys Ile Glu Glu Leu Phe Tyr Ser Tyr Ala
 6260 6265 6270
 Thr His His Asp Lys Phe Thr Asp Gly Val Cys Leu Phe Trp Asn Cys
 6275 6280 6285
 Asn Val Asp Arg Tyr Pro Ala Asn Ala Ile Val Cys Arg Phe Asp Thr
 6290 6295 6300
 Arg Val Leu Ser Asn Leu Asn Leu Pro Gly Cys Asp Gly Gly Ser Leu
 6305 6310 6315 6320
 Tyr Val Asn Lys His Ala Phe His Thr Pro Ala Phe Asp Lys Ser Ala
 6325 6330 6335
 Phe Thr Asn Leu Lys Gln Leu Pro Phe Phe Tyr Tyr Ser Asp Ser Pro
 6340 6345 6350
 Cys Glu Ser His Gly Lys Gln Val Val Ser Asp Ile Asp Tyr Val Pro
 6355 6360 6365
 Leu Lys Ser Ala Thr Cys Ile Thr Arg Cys Asn Leu Gly Gly Ala Val
 6370 6375 6380
 Cys Arg His His Ala Asn Glu Tyr Arg Gln Tyr Leu Asp Ala Tyr Asn
 6385 6390 6395 6400
 Met Met Ile Ser Ala Gly Phe Ser Leu Trp Ile Tyr Lys Gln Phe Asp
 6405 6410 6415
 Thr Tyr Asn Leu Trp Asn Thr Phe Thr Arg Leu Gln Ser Leu Glu Asn
 6420 6425 6430
 Val Ala Tyr Asn Val Val Asn Lys Gly His Phe Asp Gly His Ala Gly
 6435 6440 6445
 Glu Ala Pro Val Ser Ile Ile Asn Asn Ala Val Tyr Thr Lys Val Asp
 6450 6455 6460
 Gly Ile Asp Val Glu Ile Phe Glu Asn Lys Thr Thr Leu Pro Val Asn
 6465 6470 6475 6480
 Val Ala Phe Glu Leu Trp Ala Lys Arg Asn Ile Lys Pro Val Pro Glu
 6485 6490 6495
 Ile Lys Ile Leu Asn Asn Leu Gly Val Asp Ile Ala Ala Asn Thr Val
 6500 6505 6510
 Ile Trp Asp Tyr Lys Arg Glu Ala Pro Ala His Val Ser Thr Ile Gly
 6515 6520 6525
 Val Cys Thr Met Thr Asp Ile Ala Lys Lys Pro Thr Glu Ser Ala Cys
 6530 6535 6540
 Ser Ser Leu Thr Val Leu Phe Asp Gly Arg Val Glu Gly Gln Val Asp
 6545 6550 6555 6560
 Leu Phe Arg Asn Ala Arg Asn Gly Val Leu Ile Thr Glu Gly Ser Val
 6565 6570 6575
 Lys Gly Leu Thr Pro Ser Lys Gly Pro Ala Gln Ala Ser Val Asn Gly
 6580 6585 6590

SEQLIST-20480.TXT

Val Thr Leu Ile Gly Glu Ser Val Lys Thr Gln Phe Asn Tyr Phe Lys
6595 6600 6605

Lys Val Asp Gly Ile Ile Gln Gln Leu Pro Glu Thr Tyr Phe Thr Gln
6610 6615 6620

Ser Arg Asp Leu Glu Asp Phe Lys Pro Arg Ser Gln Met Glu Thr Asp
6625 6630 6635 6640

Phe Leu Glu Leu Ala Met Asp Glu Phe Ile Gln Arg Tyr Lys Leu Glu
6645 6650 6655

Gly Tyr Ala Phe Glu His Ile Val Tyr Gly Asp Phe Ser His Gly Gln
6660 6665 6670

Leu Gly Gly Leu His Leu Met Ile Gly Leu Ala Lys Arg Ser Gln Asp
6675 6680 6685

Ser Pro Leu Lys Leu Glu Asp Phe Ile Pro Met Asp Ser Thr Val Lys
6690 6695 6700

Asn Tyr Phe Ile Thr Asp Ala Gln Thr Gly Ser Ser Lys Cys Val Cys
6705 6710 6715 6720

Ser Val Ile Asp Leu Leu Leu Asp Asp Phe Val Glu Ile Ile Lys Ser
6725 6730 6735

Gln Asp Leu Ser Val Ile Ser Lys Val Val Lys Val Thr Ile Asp Tyr
6740 6745 6750

Ala Glu Ile Ser Phe Met Leu Trp Cys Lys Asp Gly His Val Glu Thr
6755 6760 6765

Phe Tyr Pro Lys Leu Gln Ala Ser Arg Ala Trp Gln Pro Gly Val Ala
6770 6775 6780

Met Pro Asn Leu Tyr Lys Met Gln Arg Met Leu Leu Glu Lys Cys Asp
6785 6790 6795 6800

Leu Gln Asn Tyr Gly Glu Asn Ala Val Ile Pro Lys Gly Ile Met Met
6805 6810 6815

Asn Val Ala Lys Tyr Thr Gln Leu Cys Gln Tyr Leu Asn Thr Leu Thr
6820 6825 6830

Leu Ala Val Pro Tyr Asn Met Arg Val Ile His Phe Gly Ala Gly Ser
6835 6840 6845

Asp Lys Gly Val Ala Pro Gly Thr Ala Val Leu Arg Gln Trp Leu Pro
6850 6855 6860

Thr Gly Thr Leu Leu Val Asp Ser Asp Leu Asn Asp Phe Val Ser Asp
6865 6870 6875 6880

Ala Tyr Ser Thr Leu Ile Gly Asp Cys Ala Thr Val His Thr Ala Asn
6885 6890 6895

Lys Trp Asp Leu Ile Ile Ser Asp Met Tyr Asp Pro Arg Thr Lys His
6900 6905 6910

Val Thr Lys Glu Asn Asp Ser Lys Glu Gly Phe Phe Thr Tyr Leu Cys
6915 6920 6925

SEQLIST-20480.TXT

Gly Phe Ile Lys Gln Lys Leu Ala Leu Gly Gly Ser Ile Ala Val Lys
6930 6935 6940
Ile Thr Glu His Ser Trp Asn Ala Asp Leu Tyr Lys Leu Met Gly His
6945 6950 6955 6960
Phe Ser Trp Trp Thr Ala Phe Val Thr Asn Val Asn Ala Ser Ser Ser
6965 6970 6975
Glu Ala Phe Leu Ile Gly Ala Asn Tyr Leu Gly Lys Pro Lys Glu Gln
6980 6985 6990
Ile Asp Gly Tyr Thr Met His Ala Asn Tyr Ile Phe Trp Arg Asn Thr
6995 7000 7005
Asn Pro Ile Gln Leu Ser Ser Tyr Ser Leu Phe Asp Met Ser Lys Phe
7010 7015 7020
Pro Leu Lys Leu Arg Gly Thr Ala Val Met Ser Leu Lys Glu Asn Gln
7025 7030 7035 7040
Ile Asn Asp Met Ile Tyr Ser Leu Leu Glu Lys Gly Arg Leu Ile Ile
7045 7050 7055
Arg Glu Asn Asn Arg Val Val Val Ser Ser Asp Ile Leu Val Asn Asn
7060 7065 7070

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<211> 7073
<212> PRT
<213> SARS coronavirus

<220>
<221> misc_feature
<222> 4376...4381
<223> xaa is any amino acid

<400> 7240
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Ser Leu Pro Val Leu Gln Val Arg Asp Val Leu Val Arg Gly Phe Gly
20 25 30
Asp Ser Val Glu Glu Ala Leu Ser Glu Ala Arg Glu His Leu Lys Asn
35 40 45
Gly Thr Cys Gly Leu Val Glu Leu Glu Lys Gly Val Leu Pro Gln Leu
50 55 60
Glu Gln Pro Tyr Val Phe Ile Lys Arg Ser Asp Ala Leu Ser Thr Asn
65 70 75 80
His Gly His Lys Val Val Glu Leu Val Ala Glu Met Asp Gly Ile Gln
85 90 95
Tyr Gly Arg Ser Gly Ile Thr Leu Gly Val Leu Val Pro His Val Gly
100 105 110
Glu Thr Pro Ile Ala Tyr Arg Asn Val Leu Leu Arg Lys Asn Gly Asn
115 120 125

SEQLIST-20480.TXT

Lys Gly Ala Gly Gly His Ser Tyr Gly Ile Asp Leu Lys Ser Tyr Asp
 130 135 140
 Leu Gly Asp Glu Leu Gly Thr Asp Pro Ile Glu Asp Tyr Glu Gln Asn
 145 150 155 160
 Trp Asn Thr Lys His Gly Ser Gly Ala Leu Arg Glu Leu Thr Arg Glu
 165 170 175
 Leu Asn Gly Gly Ala Val Thr Arg Tyr Val Asp Asn Asn Phe Cys Gly
 180 185 190
 Pro Asp Gly Tyr Pro Leu Asp Cys Ile Lys Asp Phe Leu Ala Arg Ala
 195 200 205
 Gly Lys Ser Met Cys Thr Leu Ser Glu Gln Leu Asp Tyr Ile Glu Ser
 210 215 220
 Lys Arg Gly Val Tyr Cys Cys Arg Asp His Glu His Glu Ile Ala Trp
 225 230 235 240
 Phe Thr Glu Arg Ser Asp Lys Ser Tyr Glu His Gln Thr Pro Phe Glu
 245 250 255
 Ile Lys Ser Ala Lys Lys Phe Asp Thr Phe Lys Gly Glu Cys Pro Lys
 260 265 270
 Phe Val Phe Pro Leu Asn Ser Lys Val Lys Val Ile Gln Pro Arg Val
 275 280 285
 Glu Lys Lys Lys Thr Glu Gly Phe Met Gly Arg Ile Arg Ser Val Tyr
 290 295 300
 Pro Val Ala Ser Pro Gln Glu Cys Asn Asn Met His Leu Ser Thr Leu
 305 310 315 320
 Met Lys Cys Asn His Cys Asp Glu Val Ser Trp Gln Thr Cys Asp Phe
 325 330 335
 Leu Lys Ala Thr Cys Glu His Cys Gly Thr Glu Asn Leu Val Ile Glu
 340 345 350
 Gly Pro Thr Thr Cys Gly Tyr Leu Pro Thr Asn Ala Val Val Lys Met
 355 360 365
 Pro Cys Pro Ala Cys Gln Asp Pro Glu Ile Gly Pro Glu His Ser Val
 370 375 380
 Ala Asp Tyr His Asn His Ser Asn Ile Glu Thr Arg Leu Arg Lys Gly
 385 390 395 400
 Gly Arg Thr Arg Cys Phe Gly Gly Cys Val Phe Ala Tyr Val Gly Cys
 405 410 415
 Tyr Asn Lys Arg Ala Tyr Trp Val Pro Arg Ala Ser Ala Asp Ile Gly
 420 425 430
 Ser Gly His Thr Gly Ile Thr Gly Asp Asn Val Glu Thr Leu Asn Glu
 435 440 445
 Asp Leu Leu Glu Ile Leu Ser Arg Glu Arg Val Asn Ile Asn Ile Val
 450 455 460

SEQLIST-20480.TXT

Gly Asp Phe His Leu Asn Glu Glu Val Ala Ile Ile Leu Ala Ser Phe
 465 470 475 480
 Ser Ala Ser Thr Ser Ala Phe Ile Asp Thr Ile Lys Ser Leu Asp Tyr
 485 490 495
 Lys Ser Phe Lys Thr Ile Val Glu Ser Cys Gly Asn Tyr Lys Val Thr
 500 505 510
 Lys Gly Lys Pro Val Lys Gly Ala Trp Asn Ile Gly Gln Gln Arg Ser
 515 520 525
 Val Leu Thr Pro Leu Cys Gly Phe Pro Ser Gln Ala Ala Gly Val Ile
 530 535 540
 Arg Ser Ile Phe Ala Arg Thr Leu Asp Ala Ala Asn His Ser Ile Pro
 545 550 555 560
 Asp Leu Gln Arg Ala Ala Val Thr Ile Leu Asp Gly Ile Ser Glu Gln
 565 570 575
 Ser Leu Arg Leu Val Asp Ala Met Val Tyr Thr Ser Asp Leu Leu Thr
 580 585 590
 Asn Ser Val Ile Ile Met Ala Tyr Val Thr Gly Gly Leu Val Gln Gln
 595 600 605
 Thr Ser Gln Trp Leu Ser Asn Leu Leu Gly Thr Thr Val Glu Lys Leu
 610 615 620
 Arg Pro Ile Phe Glu Trp Ile Glu Ala Lys Leu Ser Ala Gly Val Glu
 625 630 635 640
 Phe Leu Lys Asp Ala Trp Glu Ile Leu Lys Phe Leu Ile Thr Gly Val
 645 650 655
 Phe Asp Ile Val Lys Gly Gln Ile Gln Val Ala Ser Asp Asn Ile Lys
 660 665 670
 Asp Cys Val Lys Cys Phe Ile Asp Val Val Asn Lys Ala Leu Glu Met
 675 680 685
 Cys Ile Asp Gln Val Thr Ile Ala Gly Ala Lys Leu Arg Ser Leu Asn
 690 695 700
 Leu Gly Glu Val Phe Ile Ala Gln Ser Lys Gly Leu Tyr Arg Gln Cys
 705 710 715 720
 Ile Arg Gly Lys Glu Gln Leu Gln Leu Leu Met Pro Leu Lys Ala Pro
 725 730 735
 Lys Glu Val Thr Phe Leu Glu Gly Asp Ser His Asp Thr Val Leu Thr
 740 745 750
 Ser Glu Glu Val Val Leu Lys Asn Gly Glu Leu Glu Ala Leu Glu Thr
 755 760 765
 Pro Val Asp Ser Phe Thr Asn Gly Ala Ile Val Gly Thr Pro Val Cys
 770 775 780
 Val Asn Gly Leu Met Leu Leu Glu Ile Lys Asp Lys Glu Gln Tyr Cys
 785 790 795 800

SEQLIST-20480.TXT

Ala Leu Ser Pro Gly Leu Leu Ala Thr Asn Asn Val Phe Arg Leu Lys
805 810 815

Gly Gly Ala Pro Ile Lys Gly Val Thr Phe Gly Glu Asp Thr Val Trp
820 825 830

Glu Val Gln Gly Tyr Lys Asn Val Arg Ile Thr Phe Glu Leu Asp Glu
835 840 845

Arg Val Asp Lys Val Leu Asn Glu Lys Cys Ser Val Tyr Thr Val Glu
850 855 860

Ser Gly Thr Glu Val Thr Glu Phe Ala Cys Val Val Ala Glu Ala Val
865 870 875 880

Val Lys Thr Leu Gln Pro Val Ser Asp Leu Leu Thr Asn Met Gly Ile
885 890 895

Asp Leu Asp Glu Trp Ser Val Ala Thr Phe Tyr Leu Phe Asp Asp Ala
900 905 910

Gly Glu Glu Asn Phe Ser Ser Arg Met Tyr Cys Ser Phe Tyr Pro Pro
915 920 925

Asp Glu Glu Glu Glu Asp Asp Ala Glu Cys Glu Glu Glu Glu Ile Asp
930 935 940

Glu Thr Cys Glu His Glu Tyr Gly Thr Glu Asp Asp Tyr Gln Gly Leu
945 950 955 960

Pro Leu Glu Phe Gly Ala Ser Ala Glu Thr Val Arg Val Glu Glu Glu
965 970 975

Glu Glu Glu Asp Trp Leu Asp Asp Thr Thr Glu Gln Ser Glu Ile Glu
980 985 990

Pro Glu Pro Glu Pro Thr Pro Glu Glu Pro Val Asn Gln Phe Thr Gly
995 1000 1005

Tyr Leu Lys Leu Thr Asp Asn Val Ala Ile Lys Cys Val Asp Ile Val
1010 1015 1020

Lys Glu Ala Gln Ser Ala Asn Pro Met Val Ile Val Asn Ala Ala Asn
1025 1030 1035 1040

Ile His Leu Lys His Gly Gly Gly Val Ala Gly Ala Leu Asn Lys Ala
1045 1050 1055

Thr Asn Gly Ala Met Gln Lys Glu Ser Asp Asp Tyr Ile Lys Leu Asn
1060 1065 1070

Gly Pro Leu Thr Val Gly Gly Ser Cys Leu Leu Ser Gly His Asn Leu
1075 1080 1085

Ala Lys Lys Cys Leu His Val Val Gly Pro Asn Leu Asn Ala Gly Glu
1090 1095 1100

Asp Ile Gln Leu Leu Lys Ala Ala Tyr Glu Asn Phe Asn Ser Gln Asp
1105 1110 1115 1120

Ile Leu Leu Ala Pro Leu Leu Ser Ala Gly Ile Phe Gly Ala Lys Pro
1125 1130 1135

SEQLIST-20480.TXT

Leu Gln Ser Leu Gln Val Cys Val Gln Thr Val Arg Thr Gln Val Tyr
 1140 1145 1150
 Ile Ala Val Asn Asp Lys Ala Leu Tyr Glu Gln Val Val Met Asp Tyr
 1155 1160 1165
 Leu Asp Asn Leu Lys Pro Arg Val Glu Ala Pro Lys Gln Glu Glu Pro
 1170 1175 1180
 Pro Asn Thr Glu Asp Ser Lys Thr Glu Glu Lys Ser Val Val Gln Lys
 1185 1190 1195 1200
 Pro Val Asp Val Lys Pro Lys Ile Lys Ala Cys Ile Asp Glu Val Thr
 1205 1210 1215
 Thr Thr Leu Glu Glu Thr Lys Phe Leu Thr Asn Lys Leu Leu Leu Phe
 1220 1225 1230
 Ala Asp Ile Asn Gly Lys Leu Tyr His Asp Ser Gln Asn Met Leu Arg
 1235 1240 1245
 Gly Glu Asp Met Ser Phe Leu Glu Lys Asp Ala Pro Tyr Met Val Gly
 1250 1255 1260
 Asp Val Ile Thr Ser Gly Asp Ile Thr Cys Val Val Ile Pro Ser Lys
 1265 1270 1275 1280
 Lys Ala Gly Gly Thr Thr Glu Met Leu Ser Arg Ala Leu Lys Lys Val
 1285 1290 1295
 Pro Val Asp Glu Tyr Ile Thr Thr Tyr Pro Gly Gln Gly Cys Ala Gly
 1300 1305 1310
 Tyr Thr Leu Glu Glu Ala Lys Thr Ala Leu Lys Lys Cys Lys Ser Ala
 1315 1320 1325
 Phe Tyr Val Leu Pro Ser Glu Ala Pro Asn Ala Lys Glu Glu Ile Leu
 1330 1335 1340
 Gly Thr Val Ser Trp Asn Leu Arg Glu Met Leu Ala His Ala Glu Glu
 1345 1350 1355 1360
 Thr Arg Lys Leu Met Pro Ile Cys Met Asp Val Arg Ala Ile Met Ala
 1365 1370 1375
 Thr Ile Gln Arg Lys Tyr Lys Gly Ile Lys Ile Gln Glu Gly Ile Val
 1380 1385 1390
 Asp Tyr Gly Val Arg Phe Phe Phe Tyr Thr Ser Lys Glu Pro Val Ala
 1395 1400 1405
 Ser Ile Ile Thr Lys Leu Asn Ser Leu Asn Glu Pro Leu Val Thr Met
 1410 1415 1420
 Pro Ile Gly Tyr Val Thr His Gly Phe Asn Leu Glu Glu Ala Ala Arg
 1425 1430 1435 1440
 Cys Met Arg Ser Leu Lys Ala Pro Ala Val Val Ser Val Ser Ser Pro
 1445 1450 1455
 Asp Ala Val Thr Thr Tyr Asn Gly Tyr Leu Thr Ser Ser Ser Lys Thr
 1460 1465 1470

SEQLIST-20480.TXT

Ser Glu Glu His Phe Val Glu Thr Val Ser Leu Ala Gly Ser Tyr Arg
1475 1480 1485

Asp Trp Ser Tyr Ser Gly Gln Arg Thr Glu Leu Gly Val Glu Phe Leu
1490 1495 1500

Lys Arg Gly Asp Lys Ile Val Tyr His Thr Leu Glu Ser Pro Val Glu
1505 1510 1515 1520

Phe His Leu Asp Gly Glu Val Leu Ser Leu Asp Lys Leu Lys Ser Leu
1525 1530 1535

Leu Ser Leu Arg Glu Val Lys Thr Ile Lys Val Phe Thr Thr Val Asp
1540 1545 1550

Asn Thr Asn Leu His Thr Gln Leu Val Asp Met Ser Met Thr Tyr Gly
1555 1560 1565

Gln Gln Phe Gly Pro Thr Tyr Leu Asp Gly Ala Asp Val Thr Lys Ile
1570 1575 1580

Lys Pro His Val Asn His Glu Gly Lys Thr Phe Phe Val Leu Pro Ser
1585 1590 1595 1600

Asp Asp Thr Leu Arg Ser Glu Ala Phe Glu Tyr Tyr His Thr Leu Asp
1605 1610 1615

Glu Ser Phe Leu Gly Arg Tyr Met Ser Ala Leu Asn His Thr Lys Lys
1620 1625 1630

Trp Lys Phe Pro Gln Val Gly Gly Leu Thr Ser Ile Lys Trp Ala Asp
1635 1640 1645

Asn Asn Cys Tyr Leu Ser Ser Val Leu Leu Ala Leu Gln Gln Leu Glu
1650 1655 1660

Val Lys Phe Asn Ala Pro Ala Leu Gln Glu Ala Tyr Tyr Arg Ala Arg
1665 1670 1675 1680

Ala Gly Asp Ala Ala Asn Phe Cys Ala Leu Ile Leu Ala Tyr Ser Asn
1685 1690 1695

Lys Thr Val Gly Glu Leu Gly Asp Val Arg Glu Thr Met Thr His Leu
1700 1705 1710

Leu Gln His Ala Asn Leu Glu Ser Ala Lys Arg Val Leu Asn Val Val
1715 1720 1725

Cys Lys His Cys Gly Gln Lys Thr Thr Thr Leu Thr Gly Val Glu Ala
1730 1735 1740

Val Met Tyr Met Gly Thr Leu Ser Tyr Asp Asn Leu Lys Thr Gly Val
1745 1750 1755 1760

Ser Ile Pro Cys Val Cys Gly Arg Asp Ala Thr Gln Tyr Leu Val Gln
1765 1770 1775

Gln Glu Ser Ser Phe Val Met Met Ser Ala Pro Pro Ala Glu Tyr Lys
1780 1785 1790

Leu Gln Gln Gly Thr Phe Leu Cys Ala Asn Glu Tyr Thr Gly Asn Tyr
1795 1800 1805

SEQLIST-20480.TXT

Gln Cys Gly His Tyr Thr His Ile Thr Ala Lys Glu Thr Leu Tyr Arg
1810 1815 1820

Ile Asp Gly Ala His Leu Thr Lys Met Ser Glu Tyr Lys Gly Pro Val
1825 1830 1835 1840

Thr Asp Val Phe Tyr Lys Glu Thr Ser Tyr Thr Thr Thr Ile Lys Pro
1845 1850 1855

Val Ser Tyr Lys Leu Asp Gly Val Thr Tyr Thr Glu Ile Glu Pro Lys
1860 1865 1870

Leu Asp Gly Tyr Tyr Lys Lys Asp Asn Ala Tyr Tyr Thr Glu Gln Pro
1875 1880 1885

Ile Asp Leu Val Pro Thr Gln Pro Leu Pro Asn Ala Ser Phe Asp Asn
1890 1895 1900

Phe Lys Leu Thr Cys Ser Asn Thr Lys Phe Ala Asp Asp Leu Asn Gln
1905 1910 1915 1920

Met Thr Gly Phe Thr Lys Pro Ala Ser Arg Glu Leu Ser Val Thr Phe
1925 1930 1935

Phe Pro Asp Leu Asn Gly Asp Val Val Ala Ile Asp Tyr Arg His Tyr
1940 1945 1950

Ser Ala Ser Phe Lys Lys Gly Ala Lys Leu Leu His Lys Pro Ile Val
1955 1960 1965

Trp His Ile Asn Gln Ala Thr Thr Lys Thr Thr Phe Lys Pro Asn Thr
1970 1975 1980

Trp Cys Leu Arg Cys Leu Trp Ser Thr Lys Pro Val Asp Thr Ser Asn
1985 1990 1995 2000

Ser Phe Glu Val Leu Ala Val Glu Asp Thr Gln Gly Met Asp Asn Leu
2005 2010 2015

Ala Cys Glu Ser Gln Gln Pro Thr Ser Glu Glu Val Val Glu Asn Pro
2020 2025 2030

Thr Ile Gln Lys Glu Val Ile Glu Cys Asp Val Lys Thr Thr Glu Val
2035 2040 2045

Val Gly Asn Val Ile Leu Lys Pro Ser Asp Glu Gly Val Lys Val Thr
2050 2055 2060

Gln Glu Leu Gly His Glu Asp Leu Met Ala Ala Tyr Val Glu Asn Thr
2065 2070 2075 2080

Ser Ile Thr Ile Lys Lys Pro Asn Glu Leu Ser Leu Ala Leu Gly Leu
2085 2090 2095

Lys Thr Ile Ala Thr His Gly Ile Ala Ala Ile Asn Ser Val Pro Trp
2100 2105 2110

Ser Lys Ile Leu Ala Tyr Val Lys Pro Phe Leu Gly Gln Ala Ala Ile
2115 2120 2125

Thr Thr Ser Asn Cys Ala Lys Arg Leu Ala Gln Arg Val Phe Asn Asn
2130 2135 2140

SEQLIST-20480.TXT

Tyr Met Pro Tyr Val Phe Thr Leu Leu Phe Gln Leu Cys Thr Phe Thr
 2145 2150 2155 2160
 Lys Ser Thr Asn Ser Arg Ile Arg Ala Ser Leu Pro Thr Thr Ile Ala
 2165 2170 2175
 Lys Asn Ser Val Lys Ser Val Ala Lys Leu Cys Leu Asp Ala Gly Ile
 2180 2185 2190
 Asn Tyr Val Lys Ser Pro Lys Phe Ser Lys Leu Phe Thr Ile Ala Met
 2195 2200 2205
 Trp Leu Leu Leu Leu Ser Ile Cys Leu Gly Ser Leu Ile Cys Val Thr
 2210 2215 2220
 Ala Ala Phe Gly Val Leu Leu Ser Asn Phe Gly Ala Pro Ser Tyr Cys
 2225 2230 2235 2240
 Asn Gly Val Arg Glu Leu Tyr Leu Asn Ser Ser Asn Val Thr Thr Met
 2245 2250 2255
 Asp Phe Cys Glu Gly Ser Phe Pro Cys Ser Ile Cys Leu Ser Gly Leu
 2260 2265 2270
 Asp Ser Leu Asp Ser Tyr Pro Ala Leu Glu Thr Ile Gln Val Thr Ile
 2275 2280 2285
 Ser Ser Tyr Lys Leu Asp Leu Thr Ile Leu Gly Leu Ala Ala Glu Trp
 2290 2295 2300
 Val Leu Ala Tyr Met Leu Phe Thr Lys Phe Phe Tyr Leu Leu Gly Leu
 2305 2310 2315 2320
 Ser Ala Ile Met Gln Val Phe Phe Gly Tyr Phe Ala Ser His Phe Ile
 2325 2330 2335
 Ser Asn Ser Trp Leu Met Trp Phe Ile Ile Ser Ile Val Gln Met Ala
 2340 2345 2350
 Pro Val Ser Ala Met Val Arg Met Tyr Ile Phe Phe Ala Ser Phe Tyr
 2355 2360 2365
 Tyr Ile Trp Lys Ser Tyr Val His Ile Met Asp Gly Cys Thr Ser Ser
 2370 2375 2380
 Thr Cys Met Met Cys Tyr Lys Arg Asn Arg Ala Thr Arg Val Glu Cys
 2385 2390 2395 2400
 Thr Thr Ile Val Asn Gly Met Lys Arg Ser Phe Tyr Val Tyr Ala Asn
 2405 2410 2415
 Gly Gly Arg Gly Phe Cys Lys Thr His Asn Trp Asn Cys Leu Asn Cys
 2420 2425 2430
 Asp Thr Phe Cys Thr Gly Ser Thr Phe Ile Ser Asp Glu Val Ala Arg
 2435 2440 2445
 Asp Leu Ser Leu Gln Phe Lys Arg Pro Ile Asn Pro Thr Asp Gln Ser
 2450 2455 2460
 Ser Tyr Ile Val Asp Ser Val Ala Val Lys Asn Gly Ala Leu His Leu
 2465 2470 2475 2480

SEQLIST-20480.TXT

Tyr Phe Asp Lys Ala Gly Gln Lys Thr Tyr Glu Arg His Pro Leu Ser
 2485 2490 2495
 His Phe Val Asn Leu Asp Asn Leu Arg Ala Asn Asn Thr Lys Gly Ser
 2500 2505 2510
 Leu Pro Ile Asn Val Ile Val Phe Asp Gly Lys Ser Lys Cys Asp Glu
 2515 2520 2525
 Ser Ala Ser Lys Ser Ala Ser Val Tyr Tyr Ser Gln Leu Met Cys Gln
 2530 2535 2540
 Pro Ile Leu Leu Leu Asp Gln Ala Leu Val Ser Asp Val Gly Asp Ser
 2545 2550 2555 2560
 Thr Glu Val Ser Val Lys Met Phe Asp Ala Tyr Val Asp Thr Phe Ser
 2565 2570 2575
 Ala Thr Phe Ser Val Pro Met Glu Lys Leu Lys Ala Leu Val Ala Thr
 2580 2585 2590
 Ala His Ser Glu Leu Ala Lys Gly Val Ala Leu Asp Gly Val Leu Ser
 2595 2600 2605
 Thr Phe Val Ser Ala Ala Arg Gln Gly Val Val Asp Thr Asp Val Asp
 2610 2615 2620
 Thr Lys Asp Val Ile Glu Cys Leu Lys Leu Ser His His Ser Asp Leu
 2625 2630 2635 2640
 Glu Val Thr Gly Asp Ser Cys Asn Asn Phe Met Leu Thr Tyr Asn Lys
 2645 2650 2655
 Val Glu Asn Met Thr Pro Arg Asp Leu Gly Ala Cys Ile Asp Cys Asn
 2660 2665 2670
 Ala Arg His Ile Asn Ala Gln Val Ala Lys Ser His Asn Val Ser Leu
 2675 2680 2685
 Ile Trp Asn Val Lys Asp Tyr Met Ser Leu Ser Glu Gln Leu Arg Lys
 2690 2695 2700
 Gln Ile Arg Ser Ala Ala Lys Lys Asn Asn Ile Pro Phe Arg Leu Thr
 2705 2710 2715 2720
 Cys Ala Thr Thr Arg Gln Val Val Asn Val Ile Thr Thr Lys Ile Ser
 2725 2730 2735
 Leu Lys Gly Gly Lys Ile Val Ser Thr Cys Phe Lys Leu Met Leu Lys
 2740 2745 2750
 Ala Thr Leu Leu Cys Val Leu Ala Ala Leu Val Cys Tyr Ile Val Met
 2755 2760 2765
 Pro Val His Thr Leu Ser Ile His Asp Gly Tyr Thr Asn Glu Ile Ile
 2770 2775 2780
 Gly Tyr Lys Ala Ile Gln Asp Gly Val Thr Arg Asp Ile Ile Ser Thr
 2785 2790 2795 2800
 Asp Asp Cys Phe Ala Asn Lys His Ala Gly Phe Asp Ala Trp Phe Ser
 2805 2810 2815

SEQLIST-20480.TXT

Gln Arg Gly Gly Ser Tyr Lys Asn Asp Lys Ser Cys Pro Val Val Ala
2820 2825 2830

Ala Ile Ile Thr Arg Glu Ile Gly Phe Ile Val Pro Gly Leu Pro Gly
2835 2840 2845

Thr Val Leu Arg Ala Ile Asn Gly Asp Phe Leu His Phe Leu Pro Arg
2850 2855 2860

Val Phe Ser Ala Val Gly Asn Ile Cys Tyr Thr Pro Ser Lys Leu Ile
2865 2870 2875 2880

Glu Tyr Ser Asp Phe Ala Thr Ser Ala Cys Val Leu Ala Ala Glu Cys
2885 2890 2895

Thr Ile Phe Lys Asp Ala Met Gly Lys Pro Val Pro Tyr Cys Tyr Asp
2900 2905 2910

Thr Asn Leu Leu Glu Gly Ser Ile Ser Tyr Ser Glu Leu Arg Pro Asp
2915 2920 2925

Thr Arg Tyr Val Leu Met Asp Gly Ser Ile Ile Gln Phe Pro Asn Thr
2930 2935 2940

Tyr Leu Glu Gly Ser Val Arg Val Val Thr Thr Phe Asp Ala Glu Tyr
2945 2950 2955 2960

Cys Arg His Gly Thr Cys Glu Arg Ser Glu Val Gly Ile Cys Leu Ser
2965 2970 2975

Thr Ser Gly Arg Trp Val Leu Asn Asn Glu His Tyr Arg Ala Leu Ser
2980 2985 2990

Gly Val Phe Cys Gly Val Asp Ala Met Asn Leu Ile Ala Asn Ile Phe
2995 3000 3005

Thr Pro Leu Val Gln Pro Val Gly Ala Leu Asp Val Ser Ala Ser Val
3010 3015 3020

Val Ala Gly Gly Ile Ile Ala Ile Leu Val Thr Cys Ala Ala Tyr Tyr
3025 3030 3035 3040

Phe Met Lys Phe Arg Arg Val Phe Gly Glu Tyr Asn His Val Val Ala
3045 3050 3055

Ala Asn Ala Leu Leu Phe Leu Met Ser Phe Thr Ile Leu Cys Leu Val
3060 3065 3070

Pro Ala Tyr Ser Phe Leu Pro Gly Val Tyr Ser Val Phe Tyr Leu Tyr
3075 3080 3085

Leu Thr Phe Tyr Phe Thr Asn Asp Val Ser Phe Leu Ala His Leu Gln
3090 3095 3100

Trp Phe Ala Met Phe Ser Pro Ile Val Pro Phe Trp Ile Thr Ala Ile
3105 3110 3115 3120

Tyr Val Phe Cys Ile Ser Leu Lys His Cys His Trp Phe Phe Asn Asn
3125 3130 3135

Tyr Leu Arg Lys Arg Val Met Phe Asn Gly Val Thr Phe Ser Thr Phe
3140 3145 3150

SEQLIST-20480.TXT

Glu Glu Ala Ala Leu Cys Thr Phe Leu Leu Asn Lys Glu Met Tyr Leu
 3155 3160 3165
 Lys Leu Arg Ser Glu Thr Leu Leu Pro Leu Thr Gln Tyr Asn Arg Tyr
 3170 3175 3180
 Leu Ala Leu Tyr Asn Lys Tyr Lys Tyr Phe Ser Gly Ala Leu Asp Thr
 3185 3190 3195 3200
 Thr Ser Tyr Arg Glu Ala Ala Cys Cys His Leu Ala Lys Ala Leu Asn
 3205 3210 3215
 Asp Phe Ser Asn Ser Gly Ala Asp Val Leu Tyr Gln Pro Pro Gln Thr
 3220 3225 3230
 Ser Ile Thr Ser Ala Val Leu Gln Ser Gly Phe Arg Lys Met Ala Phe
 3235 3240 3245
 Pro Ser Gly Lys Val Glu Gly Cys Met Val Gln Val Thr Cys Gly Thr
 3250 3255 3260
 Thr Thr Leu Asn Gly Leu Trp Leu Asp Asp Thr Val Tyr Cys Pro Arg
 3265 3270 3275 3280
 His Val Ile Cys Thr Ala Glu Asp Met Leu Asn Pro Asn Tyr Glu Asp
 3285 3290 3295
 Leu Leu Ile Arg Lys Ser Asn His Ser Phe Leu Val Gln Ala Gly Asn
 3300 3305 3310
 Val Gln Leu Arg Val Ile Gly His Ser Met Gln Asn Cys Leu Leu Arg
 3315 3320 3325
 Leu Lys Val Asp Thr Ser Asn Pro Lys Thr Pro Lys Tyr Lys Phe Val
 3330 3335 3340
 Arg Ile Gln Pro Gly Gln Thr Phe Ser Val Leu Ala Cys Tyr Asn Gly
 3345 3350 3355 3360
 Ser Pro Ser Gly Val Tyr Gln Cys Ala Met Arg Pro Asn His Thr Ile
 3365 3370 3375
 Lys Gly Ser Phe Leu Asn Gly Ser Cys Gly Ser Val Gly Phe Asn Ile
 3380 3385 3390
 Asp Tyr Asp Cys Val Ser Phe Cys Tyr Met His His Met Glu Leu Pro
 3395 3400 3405
 Thr Gly Val His Ala Gly Thr Asp Leu Glu Gly Lys Phe Tyr Gly Pro
 3410 3415 3420
 Phe Val Asp Arg Gln Thr Ala Gln Ala Ala Gly Thr Asp Thr Thr Ile
 3425 3430 3435 3440
 Thr Leu Asn Val Leu Ala Trp Leu Tyr Ala Ala Val Ile Asn Gly Asp
 3445 3450 3455
 Arg Trp Phe Leu Asn Arg Phe Thr Thr Thr Leu Asn Asp Phe Asn Leu
 3460 3465 3470
 Val Ala Met Lys Tyr Asn Tyr Glu Pro Leu Thr Gln Asp His Val Asp
 3475 3480 3485

SEQLIST-20480.TXT

Ile Leu Gly Pro Leu Ser Ala Gln Thr Gly Ile Ala Val Leu Asp Met
3490 3495 3500

Cys Ala Ala Leu Lys Glu Leu Leu Gln Asn Gly Met Asn Gly Arg Thr
3505 3510 3515 3520

Ile Leu Gly Ser Thr Ile Leu Glu Asp Glu Phe Thr Pro Phe Asp Val
3525 3530 3535

Val Arg Gln Cys Ser Gly Val Thr Phe Gln Gly Lys Phe Lys Lys Ile
3540 3545 3550

Val Lys Gly Thr His His Trp Met Leu Leu Thr Phe Leu Thr Ser Leu
3555 3560 3565

Leu Ile Leu Val Gln Ser Thr Gln Trp Ser Leu Phe Phe Phe Val Tyr
3570 3575 3580

Glu Asn Ala Phe Leu Pro Phe Thr Leu Gly Ile Met Ala Ile Ala Ala
3585 3590 3595 3600

Cys Ala Met Leu Leu Val Lys His Lys His Ala Phe Leu Cys Leu Phe
3605 3610 3615

Leu Leu Pro Ser Leu Ala Thr Val Ala Tyr Phe Asn Met Val Tyr Met
3620 3625 3630

Pro Ala Ser Trp Val Met Arg Ile Met Thr Trp Leu Glu Leu Ala Asp
3635 3640 3645

Thr Ser Leu Ser Gly Tyr Arg Leu Lys Asp Cys Val Met Tyr Ala Ser
3650 3655 3660

Ala Leu Val Leu Leu Ile Leu Met Thr Ala Arg Thr Val Tyr Asp Asp
3665 3670 3675 3680

Ala Ala Arg Arg Val Trp Thr Leu Met Asn Val Ile Thr Leu Val Tyr
3685 3690 3695

Lys Val Tyr Tyr Gly Asn Ala Leu Asp Gln Ala Ile Ser Met Trp Ala
3700 3705 3710

Leu Val Ile Ser Val Thr Ser Asn Tyr Ser Gly Val Val Thr Thr Ile
3715 3720 3725

Met Phe Leu Ala Arg Ala Ile Val Phe Val Cys Val Glu Tyr Tyr Pro
3730 3735 3740

Leu Leu Phe Ile Thr Gly Asn Thr Leu Gln Cys Ile Met Leu Val Tyr
3745 3750 3755 3760

Cys Phe Leu Gly Tyr Cys Cys Cys Cys Tyr Phe Gly Leu Phe Cys Leu
3765 3770 3775

Leu Asn Arg Tyr Phe Arg Leu Thr Leu Gly Val Tyr Asp Tyr Leu Val
3780 3785 3790

Ser Thr Gln Glu Phe Arg Tyr Met Asn Ser Gln Gly Leu Leu Pro Pro
3795 3800 3805

Lys Ser Ser Ile Asp Ala Phe Lys Leu Asn Ile Lys Leu Leu Gly Ile
3810 3815 3820

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Gly Gly Lys Pro Cys Ile Lys Val Ala Thr Val Gln Ser Lys Met Ser
 3825 3830 3835 3840
 Asp Val Lys Cys Thr Ser Val Val Leu Leu Ser Val Leu Gln Gln Leu
 3845 3850 3855
 Arg Val Glu Ser Ser Ser Lys Leu Trp Ala Gln Cys Val Gln Leu His
 3860 3865 3870
 Asn Asp Ile Leu Leu Ala Lys Asp Thr Thr Glu Ala Phe Glu Lys Met
 3875 3880 3885
 Val Ser Leu Leu Ser Val Leu Leu Ser Met Gln Gly Ala Val Asp Ile
 3890 3895 3900
 Asn Arg Leu Cys Glu Glu Met Leu Asp Asn Arg Ala Thr Leu Gln Ala
 3905 3910 3915 3920
 Ile Ala Ser Glu Phe Ser Ser Leu Pro Ser Tyr Ala Ala Tyr Ala Thr
 3925 3930 3935
 Ala Gln Glu Ala Tyr Glu Gln Ala Val Ala Asn Gly Asp Ser Glu Val
 3940 3945 3950
 Val Leu Lys Lys Leu Lys Lys Ser Leu Asn Val Ala Lys Ser Glu Phe
 3955 3960 3965
 Asp Arg Asp Ala Ala Met Gln Arg Lys Leu Glu Lys Met Ala Asp Gln
 3970 3975 3980
 Ala Met Thr Gln Met Tyr Lys Gln Ala Arg Ser Glu Asp Lys Arg Ala
 3985 3990 3995 4000
 Lys Val Thr Ser Ala Met Gln Thr Met Leu Phe Thr Met Leu Arg Lys
 4005 4010 4015
 Leu Asp Asn Asp Ala Leu Asn Asn Ile Ile Asn Asn Ala Arg Asp Gly
 4020 4025 4030
 Cys Val Pro Leu Asn Ile Ile Pro Leu Thr Thr Ala Ala Lys Leu Met
 4035 4040 4045
 Val Val Val Pro Asp Tyr Gly Thr Tyr Lys Asn Thr Cys Asp Gly Asn
 4050 4055 4060
 Thr Phe Thr Tyr Ala Ser Ala Leu Trp Glu Ile Gln Gln Val Val Asp
 4065 4070 4075 4080
 Ala Asp Ser Lys Ile Val Gln Leu Ser Glu Ile Asn Met Asp Asn Ser
 4085 4090 4095
 Pro Asn Leu Ala Trp Pro Leu Ile Val Thr Ala Leu Arg Ala Asn Ser
 4100 4105 4110
 Ala Val Lys Leu Gln Asn Asn Glu Leu Ser Pro Val Ala Leu Arg Gln
 4115 4120 4125
 Met Ser Cys Ala Ala Gly Thr Thr Gln Thr Ala Cys Thr Asp Asp Asn
 4130 4135 4140
 Ala Leu Ala Tyr Tyr Asn Asn Ser Lys Gly Gly Arg Phe Val Leu Ala
 4145 4150 4155 4160

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Leu Leu Ser Asp His Gln Asp Leu Lys Trp Ala Arg Phe Pro Lys Ser
 4165 4170 4175
 Asp Gly Thr Gly Thr Ile Tyr Thr Glu Leu Glu Pro Pro Cys Arg Phe
 4180 4185 4190
 Val Thr Asp Thr Pro Lys Gly Pro Lys Val Lys Tyr Leu Tyr Phe Ile
 4195 4200 4205
 Lys Gly Leu Asn Asn Leu Asn Arg Gly Met Val Leu Gly Ser Leu Ala
 4210 4215 4220
 Ala Thr Val Arg Leu Gln Ala Gly Asn Ala Thr Glu Val Pro Ala Asn
 4225 4230 4235 4240
 Ser Thr Val Leu Ser Phe Cys Ala Phe Ala Val Asp Pro Ala Lys Ala
 4245 4250 4255
 Tyr Lys Asp Tyr Leu Ala Ser Gly Gly Gln Pro Ile Thr Asn Cys Val
 4260 4265 4270
 Lys Met Leu Cys Thr His Thr Gly Thr Gly Gln Ala Ile Thr Val Thr
 4275 4280 4285
 Pro Glu Ala Asn Met Asp Gln Glu Ser Phe Gly Gly Ala Ser Cys Cys
 4290 4295 4300
 Leu Tyr Cys Arg Cys His Ile Asp His Pro Asn Pro Lys Gly Phe Cys
 4305 4310 4315 4320
 Asp Leu Lys Gly Lys Tyr Val Gln Ile Pro Thr Thr Cys Ala Asn Asp
 4325 4330 4335
 Pro Val Gly Phe Thr Leu Arg Asn Thr Val Cys Thr Val Cys Gly Met
 4340 4345 4350
 Trp Lys Gly Tyr Gly Cys Ser Cys Asp Gln Leu Arg Glu Pro Leu Met
 4355 4360 4365
 Gln Ser Ala Asp Ala Ser Thr Xaa Xaa Xaa Xaa Xaa Xaa Gly Val Ser
 4370 4375 4380
 Ala Ala Arg Leu Thr Pro Cys Gly Thr Gly Thr Ser Thr Asp Val Val
 4385 4390 4395 4400
 Tyr Arg Ala Phe Asp Ile Tyr Asn Glu Lys Val Ala Gly Phe Ala Lys
 4405 4410 4415
 Phe Leu Lys Thr Asn Cys Cys Arg Phe Gln Glu Lys Asp Glu Glu Gly
 4420 4425 4430
 Asn Leu Leu Asp Ser Tyr Phe Val Val Lys Arg His Thr Met Ser Asn
 4435 4440 4445
 Tyr Gln His Glu Glu Thr Ile Tyr Asn Leu Val Lys Asp Cys Pro Ala
 4450 4455 4460
 Val Ala Val His Asp Phe Phe Lys Phe Arg Val Asp Gly Asp Met Val
 4465 4470 4475 4480
 Pro His Ile Ser Arg Gln Arg Leu Thr Lys Tyr Thr Met Ala Asp Leu
 4485 4490 4495

SEQLIST-20480.TXT

Val Tyr Ala Leu Arg His Phe Asp Glu Gly Asn Cys Asp Thr Leu Lys
 4500 4505 4510
 Glu Ile Leu Val Thr Tyr Asn Cys Cys Asp Asp Asp Tyr Phe Asn Lys
 4515 4520 4525
 Lys Asp Trp Tyr Asp Phe Val Glu Asn Pro Asp Ile Leu Arg Val Tyr
 4530 4535 4540
 Ala Asn Leu Gly Glu Arg Val Arg Gln Ser Leu Leu Lys Thr Val Gln
 4545 4550 4555 4560
 Phe Cys Asp Ala Met Arg Asp Ala Gly Ile Val Gly Val Leu Thr Leu
 4565 4570 4575
 Asp Asn Gln Asp Leu Asn Gly Asn Trp Tyr Asp Phe Gly Asp Phe Val
 4580 4585 4590
 Gln Val Ala Pro Gly Cys Gly Val Pro Ile Val Asp Ser Tyr Tyr Ser
 4595 4600 4605
 Leu Leu Met Pro Ile Leu Thr Leu Thr Arg Ala Leu Ala Ala Glu Ser
 4610 4615 4620
 His Met Asp Ala Asp Leu Ala Lys Pro Leu Ile Lys Trp Asp Leu Leu
 4625 4630 4635 4640
 Lys Tyr Asp Phe Thr Glu Glu Arg Leu Cys Leu Phe Asp Arg Tyr Phe
 4645 4650 4655
 Lys Tyr Trp Asp Gln Thr Tyr His Pro Asn Cys Ile Asn Cys Leu Asp
 4660 4665 4670
 Asp Arg Cys Ile Leu His Cys Ala Asn Phe Asn Val Leu Phe Ser Thr
 4675 4680 4685
 Val Phe Pro Pro Thr Ser Phe Gly Pro Leu Val Arg Lys Ile Phe Val
 4690 4695 4700
 Asp Gly Val Pro Phe Val Val Ser Thr Gly Tyr His Phe Arg Glu Leu
 4705 4710 4715 4720
 Gly Val Val His Asn Gln Asp Val Asn Leu His Ser Ser Arg Leu Ser
 4725 4730 4735
 Phe Lys Glu Leu Leu Val Tyr Ala Ala Asp Pro Ala Met His Ala Ala
 4740 4745 4750
 Ser Gly Asn Leu Leu Leu Asp Lys Arg Thr Thr Cys Phe Ser Val Ala
 4755 4760 4765
 Ala Leu Thr Asn Asn Val Ala Phe Gln Thr Val Lys Pro Gly Asn Phe
 4770 4775 4780
 Asn Lys Asp Phe Tyr Asp Phe Ala Val Ser Lys Gly Phe Phe Lys Glu
 4785 4790 4795 4800
 Gly Ser Ser Val Glu Leu Lys His Phe Phe Phe Ala Gln Asp Gly Asn
 4805 4810 4815
 Ala Ala Ile Ser Asp Tyr Asp Tyr Tyr Arg Tyr Asn Leu Pro Thr Met
 4820 4825 4830

SEQLIST-20480.TXT

Cys Asp Ile Arg Gln Leu Leu Phe Val Val Glu Val Val Asp Lys Tyr
 4835 4840 4845
 Phe Asp Cys Tyr Asp Gly Gly Cys Ile Asn Ala Asn Gln Val Ile Val
 4850 4855 4860
 Asn Asn Leu Asp Lys Ser Ala Gly Phe Pro Phe Asn Lys Trp Gly Lys
 4865 4870 4875 4880
 Ala Arg Leu Tyr Tyr Asp Ser Met Ser Tyr Glu Asp Gln Asp Ala Leu
 4885 4890 4895
 Phe Ala Tyr Thr Lys Arg Asn Val Ile Pro Thr Ile Thr Gln Met Asn
 4900 4905 4910
 Leu Lys Tyr Ala Ile Ser Ala Lys Asn Arg Ala Arg Thr Val Ala Gly
 4915 4920 4925
 Val Ser Ile Cys Ser Thr Met Thr Asn Arg Gln Phe His Gln Lys Leu
 4930 4935 4940
 Leu Lys Ser Ile Ala Ala Thr Arg Gly Ala Thr Val Val Ile Gly Thr
 4945 4950 4955 4960
 Ser Lys Phe Tyr Gly Gly Trp His Asn Met Leu Lys Thr Val Tyr Ser
 4965 4970 4975
 Asp Val Glu Thr Pro His Leu Met Gly Trp Asp Tyr Pro Lys Cys Asp
 4980 4985 4990
 Arg Ala Met Pro Asn Met Leu Arg Ile Met Ala Ser Leu Val Leu Ala
 4995 5000 5005
 Arg Lys His Asn Thr Cys Cys Asn Leu Ser His Arg Phe Tyr Arg Leu
 5010 5015 5020
 Ala Asn Glu Cys Ala Gln Val Leu Ser Glu Met Val Met Cys Gly Gly
 5025 5030 5035 5040
 Ser Leu Tyr Val Lys Pro Gly Gly Thr Ser Ser Gly Asp Ala Thr Thr
 5045 5050 5055
 Ala Tyr Ala Asn Ser Val Phe Asn Ile Cys Gln Ala Val Thr Ala Asn
 5060 5065 5070
 Val Asn Ala Leu Leu Ser Thr Asp Gly Asn Lys Ile Ala Asp Lys Tyr
 5075 5080 5085
 Val Arg Asn Leu Gln His Arg Leu Tyr Glu Cys Leu Tyr Arg Asn Arg
 5090 5095 5100
 Asp Val Asp His Glu Phe Val Asp Glu Phe Tyr Ala Tyr Leu Arg Lys
 5105 5110 5115 5120
 His Phe Ser Met Met Ile Leu Ser Asp Asp Ala Val Val Cys Tyr Asn
 5125 5130 5135
 Ser Asn Tyr Ala Ala Gln Gly Leu Val Ala Ser Ile Lys Asn Phe Lys
 5140 5145 5150
 Ala Val Leu Tyr Tyr Gln Asn Asn Val Phe Met Ser Glu Ala Lys Cys
 5155 5160 5165

SEQLIST-20480.TXT

Trp Thr Glu Thr Asp Leu Thr Lys Gly Pro His Glu Phe Cys Ser Gln
 5170 5175 5180
 His Thr Met Leu Val Lys Gln Gly Asp Asp Tyr Val Tyr Leu Pro Tyr
 5185 5190 5195 5200
 Pro Asp Pro Ser Arg Ile Leu Gly Ala Gly Cys Phe Val Asp Asp Ile
 5205 5210 5215
 Val Lys Thr Asp Gly Thr Leu Met Ile Glu Arg Phe Val Ser Leu Ala
 5220 5225 5230
 Ile Asp Ala Tyr Pro Leu Thr Lys His Pro Asn Gln Glu Tyr Ala Asp
 5235 5240 5245
 Val Phe His Leu Tyr Leu Gln Tyr Ile Arg Lys Leu His Asp Glu Leu
 5250 5255 5260
 Thr Gly His Met Leu Asp Met Tyr Ser Val Met Leu Thr Asn Asp Asn
 5265 5270 5275 5280
 Thr Ser Arg Tyr Trp Glu Pro Glu Phe Tyr Glu Ala Met Tyr Thr Pro
 5285 5290 5295
 His Thr Val Leu Gln Ala Val Gly Ala Cys Val Leu Cys Asn Ser Gln
 5300 5305 5310
 Thr Ser Leu Arg Cys Gly Ala Cys Ile Arg Arg Pro Phe Leu Cys Cys
 5315 5320 5325
 Lys Cys Cys Tyr Asp His Val Ile Ser Thr Ser His Lys Leu Val Leu
 5330 5335 5340
 Ser Val Asn Pro Tyr Val Cys Asn Ala Pro Gly Cys Asp Val Thr Asp
 5345 5350 5355 5360
 Val Thr Gln Leu Tyr Leu Gly Gly Met Ser Tyr Tyr Cys Lys Ser His
 5365 5370 5375
 Lys Pro Pro Ile Ser Phe Pro Leu Cys Ala Asn Gly Gln Val Phe Gly
 5380 5385 5390
 Leu Tyr Lys Asn Thr Cys Val Gly Ser Asp Asn Val Thr Asp Phe Asn
 5395 5400 5405
 Ala Ile Ala Thr Cys Asp Trp Thr Asn Ala Gly Asp Tyr Ile Leu Ala
 5410 5415 5420
 Asn Thr Cys Thr Glu Arg Leu Lys Leu Phe Ala Ala Glu Thr Leu Lys
 5425 5430 5435 5440
 Ala Thr Glu Glu Thr Phe Lys Leu Ser Tyr Gly Ile Ala Thr Val Arg
 5445 5450 5455
 Glu Val Leu Ser Asp Arg Glu Leu His Leu Ser Trp Glu Val Gly Lys
 5460 5465 5470
 Pro Arg Pro Pro Leu Asn Arg Asn Tyr Val Phe Thr Gly Tyr Arg Val
 5475 5480 5485
 Thr Lys Asn Ser Lys Val Gln Ile Gly Glu Tyr Thr Phe Glu Lys Gly
 5490 5495 5500

SEQLIST-20480.TXT

Asp Tyr Gly Asp Ala Val Val Tyr Arg Gly Thr Thr Thr Tyr Lys Leu
 5505 5510 5515 5520
 Asn Val Gly Asp Tyr Phe Val Leu Thr Ser His Thr Val Met Pro Leu
 5525 5530 5535
 Ser Ala Pro Thr Leu Val Pro Gln Glu His Tyr Val Arg Ile Thr Gly
 5540 5545 5550
 Leu Tyr Pro Thr Leu Asn Ile Ser Asp Glu Phe Ser Ser Asn Val Ala
 5555 5560 5565
 Asn Tyr Gln Lys Val Gly Met Gln Lys Tyr Ser Thr Leu Gln Gly Pro
 5570 5575 5580
 Pro Gly Thr Gly Lys Ser His Phe Ala Ile Gly Leu Ala Leu Tyr Tyr
 5585 5590 5595 5600
 Pro Ser Ala Arg Ile Val Tyr Thr Ala Cys Ser His Ala Ala Val Asp
 5605 5610 5615
 Ala Leu Cys Glu Lys Ala Leu Lys Tyr Leu Pro Ile Asp Lys Cys Ser
 5620 5625 5630
 Arg Ile Ile Pro Ala Arg Ala Arg Val Glu Cys Phe Asp Lys Phe Lys
 5635 5640 5645
 Val Asn Ser Thr Leu Glu Gln Tyr Val Phe Cys Thr Val Asn Ala Leu
 5650 5655 5660
 Pro Glu Thr Thr Ala Asp Ile Val Val Phe Asp Glu Ile Ser Met Ala
 5665 5670 5675 5680
 Thr Asn Tyr Asp Leu Ser Val Val Asn Ala Arg Leu Arg Ala Lys His
 5685 5690 5695
 Tyr Val Tyr Ile Gly Asp Pro Ala Gln Leu Pro Ala Pro Arg Thr Leu
 5700 5705 5710
 Leu Thr Lys Gly Thr Leu Glu Pro Glu Tyr Phe Asn Ser Val Cys Arg
 5715 5720 5725
 Leu Met Lys Thr Ile Gly Pro Asp Met Phe Leu Gly Thr Cys Arg Arg
 5730 5735 5740
 Cys Pro Ala Glu Ile Val Asp Thr Val Ser Ala Leu Val Tyr Asp Asn
 5745 5750 5755 5760
 Lys Leu Lys Ala His Lys Asp Lys Ser Ala Gln Cys Phe Lys Met Phe
 5765 5770 5775
 Tyr Lys Gly Val Ile Thr His Asp Val Ser Ser Ala Ile Asn Arg Pro
 5780 5785 5790
 Gln Ile Gly Val Val Arg Glu Phe Leu Thr Arg Asn Pro Ala Trp Arg
 5795 5800 5805
 Lys Ala Val Phe Ile Ser Pro Tyr Asn Ser Gln Asn Ala Val Ala Ser
 5810 5815 5820
 Lys Ile Leu Gly Leu Pro Thr Gln Thr Val Asp Ser Ser Gln Gly Ser
 5825 5830 5835 5840

SEQLIST-20480.TXT

Glu Tyr Asp Tyr Val Ile Phe Thr Gln Thr Thr Glu Thr Ala His Ser
 5845 5850 5855
 Cys Asn Val Asn Arg Phe Asn Val Ala Ile Thr Arg Ala Lys Ile Gly
 5860 5865 5870
 Ile Leu Cys Ile Met Ser Asp Arg Asp Leu Tyr Asp Lys Leu Gln Phe
 5875 5880 5885
 Thr Ser Leu Glu Ile Pro Arg Arg Asn Val Ala Thr Leu Gln Ala Glu
 5890 5895 5900
 Asn Val Thr Gly Leu Phe Lys Asp Cys Ser Lys Ile Ile Thr Gly Leu
 5905 5910 5915 5920
 His Pro Thr Gln Ala Pro Thr His Leu Ser Val Asp Ile Lys Phe Lys
 5925 5930 5935
 Thr Glu Gly Leu Cys Val Asp Ile Pro Gly Ile Pro Lys Asp Met Thr
 5940 5945 5950
 Tyr Arg Arg Leu Ile Ser Met Met Gly Phe Lys Met Asn Tyr Gln Val
 5955 5960 5965
 Asn Gly Tyr Pro Asn Met Phe Ile Thr Arg Glu Glu Ala Ile Arg His
 5970 5975 5980
 Val Arg Ala Trp Ile Gly Phe Asp Val Glu Gly Cys His Ala Thr Arg
 5985 5990 5995 6000
 Asp Ala Val Gly Thr Asn Leu Pro Leu Gln Leu Gly Phe Ser Thr Gly
 6005 6010 6015
 Val Asn Leu Val Ala Val Pro Thr Gly Tyr Val Asp Thr Glu Asn Asn
 6020 6025 6030
 Thr Glu Phe Thr Arg Val Asn Ala Lys Pro Pro Pro Gly Asp Gln Phe
 6035 6040 6045
 Lys His Leu Ile Pro Leu Met Tyr Lys Gly Leu Pro Trp Asn Val Val
 6050 6055 6060
 Arg Ile Lys Ile Val Gln Met Leu Ser Asp Thr Leu Lys Gly Leu Ser
 6065 6070 6075 6080
 Asp Arg Val Val Phe Val Leu Trp Ala His Gly Phe Glu Leu Thr Ser
 6085 6090 6095
 Met Lys Tyr Phe Val Lys Ile Gly Pro Glu Arg Thr Cys Cys Leu Cys
 6100 6105 6110
 Asp Lys Arg Ala Thr Cys Phe Ser Thr Ser Ser Asp Thr Tyr Ala Cys
 6115 6120 6125
 Trp Asn His Ser Val Gly Phe Asp Tyr Val Tyr Asn Pro Phe Met Ile
 6130 6135 6140
 Asp Val Gln Gln Trp Gly Phe Thr Gly Asn Leu Gln Ser Asn His Asp
 6145 6150 6155 6160
 Gln His Cys Gln Val His Gly Asn Ala His Val Ala Ser Cys Asp Ala
 6165 6170 6175

SEQLIST-20480.TXT

Ile Met Thr Arg Cys Leu Ala Val His Glu Cys Phe Val Lys Arg Val
6180 6185 6190

Asp Trp Ser Val Glu Tyr Pro Ile Ile Gly Asp Glu Leu Arg Val Asn
6195 6200 6205

Ser Ala Cys Arg Lys Val Gln His Met Val Val Lys Ser Ala Leu Leu
6210 6215 6220

Ala Asp Lys Phe Pro Val Leu His Asp Ile Gly Asn Pro Lys Ala Ile
6225 6230 6235 6240

Lys Cys Val Pro Gln Ala Glu Val Glu Trp Lys Phe Tyr Asp Ala Gln
6245 6250 6255

Pro Cys Ser Asp Lys Ala Tyr Lys Ile Glu Glu Leu Phe Tyr Ser Tyr
6260 6265 6270

Ala Thr His His Asp Lys Phe Thr Asp Gly Val Cys Leu Phe Trp Asn
6275 6280 6285

Cys Asn Val Asp Arg Tyr Pro Ala Asn Ala Ile Val Cys Arg Phe Asp
6290 6295 6300

Thr Arg Val Leu Ser Asn Leu Asn Leu Pro Gly Cys Asp Gly Gly Ser
6305 6310 6315 6320

Leu Tyr Val Asn Lys His Ala Phe His Thr Pro Ala Phe Asp Lys Ser
6325 6330 6335

Ala Phe Thr Asn Leu Lys Gln Leu Pro Phe Phe Tyr Tyr Ser Asp Ser
6340 6345 6350

Pro Cys Glu Ser His Gly Lys Gln Val Val Ser Asp Ile Asp Tyr Val
6355 6360 6365

Pro Leu Lys Ser Ala Thr Cys Ile Thr Arg Cys Asn Leu Gly Gly Ala
6370 6375 6380

Val Cys Arg His His Ala Asn Glu Tyr Arg Gln Tyr Leu Asp Ala Tyr
6385 6390 6395 6400

Asn Met Met Ile Ser Ala Gly Phe Ser Leu Trp Ile Tyr Lys Gln Phe
6405 6410 6415

Asp Thr Tyr Asn Leu Trp Asn Thr Phe Thr Arg Leu Gln Ser Leu Glu
6420 6425 6430

Asn Val Ala Tyr Asn Val Val Asn Lys Gly His Phe Asp Gly His Ala
6435 6440 6445

Gly Glu Ala Pro Val Ser Ile Ile Asn Asn Ala Val Tyr Thr Lys Val
6450 6455 6460

Asp Gly Ile Asp Val Glu Ile Phe Glu Asn Lys Thr Thr Leu Pro Val
6465 6470 6475 6480

Asn Val Ala Phe Glu Leu Trp Ala Lys Arg Asn Ile Lys Pro Val Pro
6485 6490 6495

Glu Ile Lys Ile Leu Asn Asn Leu Gly Val Asp Ile Ala Ala Asn Thr
6500 6505 6510

SEQLIST-20480.TXT

Val Ile Trp Asp Tyr Lys Arg Glu Ala Pro Ala His Val Ser Thr Ile
 6515 6520 6525
 Gly Val Cys Thr Met Thr Asp Ile Ala Lys Lys Pro Thr Glu Ser Ala
 6530 6535 6540
 Cys Ser Ser Leu Thr Val Leu Phe Asp Gly Arg Val Glu Gly Gln Val
 6545 6550 6555 6560
 Asp Leu Phe Arg Asn Ala Arg Asn Gly Val Leu Ile Thr Glu Gly Ser
 6565 6570 6575
 Val Lys Gly Leu Thr Pro Ser Lys Gly Pro Ala Gln Ala Ser Val Asn
 6580 6585 6590
 Gly Val Thr Leu Ile Gly Glu Ser Val Lys Thr Gln Phe Asn Tyr Phe
 6595 6600 6605
 Lys Lys Val Asp Gly Ile Ile Gln Gln Leu Pro Glu Thr Tyr Phe Thr
 6610 6615 6620
 Gln Ser Arg Asp Leu Glu Asp Phe Lys Pro Arg Ser Gln Met Glu Thr
 6625 6630 6635 6640
 Asp Phe Leu Glu Leu Ala Met Asp Glu Phe Ile Gln Arg Tyr Lys Leu
 6645 6650 6655
 Glu Gly Tyr Ala Phe Glu His Ile Val Tyr Gly Asp Phe Ser His Gly
 6660 6665 6670
 Gln Leu Gly Gly Leu His Leu Met Ile Gly Leu Ala Lys Arg Ser Gln
 6675 6680 6685
 Asp Ser Pro Leu Lys Leu Glu Asp Phe Ile Pro Met Asp Ser Thr Val
 6690 6695 6700
 Lys Asn Tyr Phe Ile Thr Asp Ala Gln Thr Gly Ser Ser Lys Cys Val
 6705 6710 6715 6720
 Cys Ser Val Ile Asp Leu Leu Leu Asp Asp Phe Val Glu Ile Ile Lys
 6725 6730 6735
 Ser Gln Asp Leu Ser Val Ile Ser Lys Val Val Lys Val Thr Ile Asp
 6740 6745 6750
 Tyr Ala Glu Ile Ser Phe Met Leu Trp Cys Lys Asp Gly His Val Glu
 6755 6760 6765
 Thr Phe Tyr Pro Lys Leu Gln Ala Ser Arg Ala Trp Gln Pro Gly Val
 6770 6775 6780
 Ala Met Pro Asn Leu Tyr Lys Met Gln Arg Met Leu Leu Glu Lys Cys
 6785 6790 6795 6800
 Asp Leu Gln Asn Tyr Gly Glu Asn Ala Val Ile Pro Lys Gly Ile Met
 6805 6810 6815
 Met Asn Val Ala Lys Tyr Thr Gln Leu Cys Gln Tyr Leu Asn Thr Leu
 6820 6825 6830
 Thr Leu Ala Val Pro Tyr Asn Met Arg Val Ile His Phe Gly Ala Gly
 6835 6840 6845

SEQLIST-20480.TXT

Ser Asp Lys Gly Val Ala Pro Gly Thr Ala Val Leu Arg Gln Trp Leu
6850 6855 6860

Pro Thr Gly Thr Leu Leu Val Asp Ser Asp Leu Asn Asp Phe Val Ser
6865 6870 6875 6880

Asp Ala Tyr Ser Thr Leu Ile Gly Asp Cys Ala Thr Val His Thr Ala
6885 6890 6895

Asn Lys Trp Asp Leu Ile Ile Ser Asp Met Tyr Asp Pro Arg Thr Lys
6900 6905 6910

His Val Thr Lys Glu Asn Asp Ser Lys Glu Gly Phe Phe Thr Tyr Leu
6915 6920 6925

Cys Gly Phe Ile Lys Gln Lys Leu Ala Leu Gly Gly Ser Ile Ala Val
6930 6935 6940

Lys Ile Thr Glu His Ser Trp Asn Ala Asp Leu Tyr Lys Leu Met Gly
6945 6950 6955 6960

His Phe Ser Trp Trp Thr Ala Phe Val Thr Asn Val Asn Ala Ser Ser
6965 6970 6975

Ser Glu Ala Phe Leu Ile Gly Ala Asn Tyr Leu Gly Lys Pro Lys Glu
6980 6985 6990

Gln Ile Asp Gly Tyr Thr Met His Ala Asn Tyr Ile Phe Trp Arg Asn
6995 7000 7005

Thr Asn Pro Ile Gln Leu Ser Ser Tyr Ser Leu Phe Asp Met Ser Lys
7010 7015 7020

Phe Pro Leu Lys Leu Arg Gly Thr Ala Val Met Ser Leu Lys Glu Asn
7025 7030 7035 7040

Gln Ile Asn Asp Met Ile Tyr Ser Leu Leu Glu Lys Gly Arg Leu Ile
7045 7050 7055

Ile Arg Glu Asn Asn Arg Val Val Val Ser Ser Asp Ile Leu Val Asn
7060 7065 7070

Asn

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<213> SARS coronavirus

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<222> 4376...4382
<223> Xaa is any amino acid

<400> 7241
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Ser Leu Pro Val Leu Gln Val Arg Asp Val Leu Val Arg Gly Phe Gly
20 25 30

SEQLIST-20480.TXT

Asp Ser Val Glu Glu Ala Leu Ser Glu Ala Arg Glu His Leu Lys Asn
 35 40 45
 Gly Thr Cys Gly Leu Val Glu Leu Glu Lys Gly Val Leu Pro Gln Leu
 50 55 60
 Glu Gln Pro Tyr Val Phe Ile Lys Arg Ser Asp Ala Leu Ser Thr Asn
 65 70 75 80
 His Gly His Lys Val Val Glu Leu Val Ala Glu Met Asp Gly Ile Gln
 85 90 95
 Tyr Gly Arg Ser Gly Ile Thr Leu Gly Val Leu Val Pro His Val Gly
 100 105 110
 Glu Thr Pro Ile Ala Tyr Arg Asn Val Leu Leu Arg Lys Asn Gly Asn
 115 120 125
 Lys Gly Ala Gly Gly His Ser Tyr Gly Ile Asp Leu Lys Ser Tyr Asp
 130 135 140
 Leu Gly Asp Glu Leu Gly Thr Asp Pro Ile Glu Asp Tyr Glu Gln Asn
 145 150 155 160
 Trp Asn Thr Lys His Gly Ser Gly Ala Leu Arg Glu Leu Thr Arg Glu
 165 170 175
 Leu Asn Gly Gly Ala Val Thr Arg Tyr Val Asp Asn Asn Phe Cys Gly
 180 185 190
 Pro Asp Gly Tyr Pro Leu Asp Cys Ile Lys Asp Phe Leu Ala Arg Ala
 195 200 205
 Gly Lys Ser Met Cys Thr Leu Ser Glu Gln Leu Asp Tyr Ile Glu Ser
 210 215 220
 Lys Arg Gly Val Tyr Cys Cys Arg Asp His Glu His Glu Ile Ala Trp
 225 230 235 240
 Phe Thr Glu Arg Ser Asp Lys Ser Tyr Glu His Gln Thr Pro Phe Glu
 245 250 255
 Ile Lys Ser Ala Lys Lys Phe Asp Thr Phe Lys Gly Glu Cys Pro Lys
 260 265 270
 Phe Val Phe Pro Leu Asn Ser Lys Val Lys Val Ile Gln Pro Arg Val
 275 280 285
 Glu Lys Lys Lys Thr Glu Gly Phe Met Gly Arg Ile Arg Ser Val Tyr
 290 295 300
 Pro Val Ala Ser Pro Gln Glu Cys Asn Asn Met His Leu Ser Thr Leu
 305 310 315 320
 Met Lys Cys Asn His Cys Asp Glu Val Ser Trp Gln Thr Cys Asp Phe
 325 330 335
 Leu Lys Ala Thr Cys Glu His Cys Gly Thr Glu Asn Leu Val Ile Glu
 340 345 350
 Gly Pro Thr Thr Cys Gly Tyr Leu Pro Thr Asn Ala Val Val Lys Met
 355 360 365

SEQLIST-20480.TXT

Pro Cys Pro Ala Cys Gln Asp Pro Glu Ile Gly Pro Glu His Ser Val
370 375 380
Ala Asp Tyr His Asn His Ser Asn Ile Glu Thr Arg Leu Arg Lys Gly
385 390 395 400
Gly Arg Thr Arg Cys Phe Gly Gly Cys Val Phe Ala Tyr Val Gly Cys
405 410 415
Tyr Asn Lys Arg Ala Tyr Trp Val Pro Arg Ala Ser Ala Asp Ile Gly
420 425 430
Ser Gly His Thr Gly Ile Thr Gly Asp Asn Val Glu Thr Leu Asn Glu
435 440 445
Asp Leu Leu Glu Ile Leu Ser Arg Glu Arg Val Asn Ile Asn Ile Val
450 455 460
Gly Asp Phe His Leu Asn Glu Glu Val Ala Ile Ile Leu Ala Ser Phe
465 470 475 480
Ser Ala Ser Thr Ser Ala Phe Ile Asp Thr Ile Lys Ser Leu Asp Tyr
485 490 495
Lys Ser Phe Lys Thr Ile Val Glu Ser Cys Gly Asn Tyr Lys Val Thr
500 505 510
Lys Gly Lys Pro Val Lys Gly Ala Trp Asn Ile Gly Gln Gln Arg Ser
515 520 525
Val Leu Thr Pro Leu Cys Gly Phe Pro Ser Gln Ala Ala Gly Val Ile
530 535 540
Arg Ser Ile Phe Ala Arg Thr Leu Asp Ala Ala Asn His Ser Ile Pro
545 550 555 560
Asp Leu Gln Arg Ala Ala Val Thr Ile Leu Asp Gly Ile Ser Glu Gln
565 570 575
Ser Leu Arg Leu Val Asp Ala Met Val Tyr Thr Ser Asp Leu Leu Thr
580 585 590
Asn Ser Val Ile Ile Met Ala Tyr Val Thr Gly Gly Leu Val Gln Gln
595 600 605
Thr Ser Gln Trp Leu Ser Asn Leu Leu Gly Thr Thr Val Glu Lys Leu
610 615 620
Arg Pro Ile Phe Glu Trp Ile Glu Ala Lys Leu Ser Ala Gly Val Glu
625 630 635 640
Phe Leu Lys Asp Ala Trp Glu Ile Leu Lys Phe Leu Ile Thr Gly Val
645 650 655
Phe Asp Ile Val Lys Gly Gln Ile Gln Val Ala Ser Asp Asn Ile Lys
660 665 670
Asp Cys Val Lys Cys Phe Ile Asp Val Val Asn Lys Ala Leu Glu Met
675 680 685
Cys Ile Asp Gln Val Thr Ile Ala Gly Ala Lys Leu Arg Ser Leu Asn
690 695 700

SEQLIST-20480.TXT

Leu Gly Glu Val Phe Ile Ala Gln Ser Lys Gly Leu Tyr Arg Gln Cys
 705 710 715 720
 Ile Arg Gly Lys Glu Gln Leu Gln Leu Leu Met Pro Leu Lys Ala Pro
 725 730 735
 Lys Glu Val Thr Phe Leu Glu Gly Asp Ser His Asp Thr Val Leu Thr
 740 745 750
 Ser Glu Glu Val Val Leu Lys Asn Gly Glu Leu Glu Ala Leu Glu Thr
 755 760 765
 Pro Val Asp Ser Phe Thr Asn Gly Ala Ile Val Gly Thr Pro Val Cys
 770 775 780
 Val Asn Gly Leu Met Leu Leu Glu Ile Lys Asp Lys Glu Gln Tyr Cys
 785 790 795 800
 Ala Leu Ser Pro Gly Leu Leu Ala Thr Asn Asn Val Phe Arg Leu Lys
 805 810 815
 Gly Gly Ala Pro Ile Lys Gly Val Thr Phe Gly Glu Asp Thr Val Trp
 820 825 830
 Glu Val Gln Gly Tyr Lys Asn Val Arg Ile Thr Phe Glu Leu Asp Glu
 835 840 845
 Arg Val Asp Lys Val Leu Asn Glu Lys Cys Ser Val Tyr Thr Val Glu
 850 855 860
 Ser Gly Thr Glu Val Thr Glu Phe Ala Cys Val Val Ala Glu Ala Val
 865 870 875 880
 Val Lys Thr Leu Gln Pro Val Ser Asp Leu Leu Thr Asn Met Gly Ile
 885 890 895
 Asp Leu Asp Glu Trp Ser Val Ala Thr Phe Tyr Leu Phe Asp Asp Ala
 900 905 910
 Gly Glu Glu Asn Phe Ser Ser Arg Met Tyr Cys Ser Phe Tyr Pro Pro
 915 920 925
 Asp Glu Glu Glu Glu Asp Asp Ala Glu Cys Glu Glu Glu Glu Ile Asp
 930 935 940
 Glu Thr Cys Glu His Glu Tyr Gly Thr Glu Asp Asp Tyr Gln Gly Leu
 945 950 955 960
 Pro Leu Glu Phe Gly Ala Ser Ala Glu Thr Val Arg Val Glu Glu Glu
 965 970 975
 Glu Glu Glu Asp Trp Leu Asp Asp Thr Thr Glu Gln Ser Glu Ile Glu
 980 985 990
 Pro Glu Pro Glu Pro Thr Pro Glu Glu Pro Val Asn Gln Phe Thr Gly
 995 1000 1005
 Tyr Leu Lys Leu Thr Asp Asn Val Ala Ile Lys Cys Val Asp Ile Val
 1010 1015 1020
 Lys Glu Ala Gln Ser Ala Asn Pro Met Val Ile Val Asn Ala Ala Asn
 1025 1030 1035 1040

SEQLIST-20480.TXT

Ile His Leu Lys His Gly Gly Gly Val Ala Gly Ala Leu Asn Lys Ala
1045 1050 1055

Thr Asn Gly Ala Met Gln Lys Glu Ser Asp Asp Tyr Ile Lys Leu Asn
1060 1065 1070

Gly Pro Leu Thr Val Gly Gly Ser Cys Leu Leu Ser Gly His Asn Leu
1075 1080 1085

Ala Lys Lys Cys Leu His Val Val Gly Pro Asn Leu Asn Ala Gly Glu
1090 1095 1100

Asp Ile Gln Leu Leu Lys Ala Ala Tyr Glu Asn Phe Asn Ser Gln Asp
1105 1110 1115 1120

Ile Leu Leu Ala Pro Leu Leu Ser Ala Gly Ile Phe Gly Ala Lys Pro
1125 1130 1135

Leu Gln Ser Leu Gln Val Cys Val Gln Thr Val Arg Thr Gln Val Tyr
1140 1145 1150

Ile Ala Val Asn Asp Lys Ala Leu Tyr Glu Gln Val Val Met Asp Tyr
1155 1160 1165

Leu Asp Asn Leu Lys Pro Arg Val Glu Ala Pro Lys Gln Glu Glu Pro
1170 1175 1180

Pro Asn Thr Glu Asp Ser Lys Thr Glu Glu Lys Ser Val Val Gln Lys
1185 1190 1195 1200

Pro Val Asp Val Lys Pro Lys Ile Lys Ala Cys Ile Asp Glu Val Thr
1205 1210 1215

Thr Thr Leu Glu Glu Thr Lys Phe Leu Thr Asn Lys Leu Leu Leu Phe
1220 1225 1230

Ala Asp Ile Asn Gly Lys Leu Tyr His Asp Ser Gln Asn Met Leu Arg
1235 1240 1245

Gly Glu Asp Met Ser Phe Leu Glu Lys Asp Ala Pro Tyr Met Val Gly
1250 1255 1260

Asp Val Ile Thr Ser Gly Asp Ile Thr Cys Val Val Ile Pro Ser Lys
1265 1270 1275 1280

Lys Ala Gly Gly Thr Thr Glu Met Leu Ser Arg Ala Leu Lys Lys Val
1285 1290 1295

Pro Val Asp Glu Tyr Ile Thr Thr Tyr Pro Gly Gln Gly Cys Ala Gly
1300 1305 1310

Tyr Thr Leu Glu Glu Ala Lys Thr Ala Leu Lys Lys Cys Lys Ser Ala
1315 1320 1325

Phe Tyr Val Leu Pro Ser Glu Ala Pro Asn Ala Lys Glu Glu Ile Leu
1330 1335 1340

Gly Thr Val Ser Trp Asn Leu Arg Glu Met Leu Ala His Ala Glu Glu
1345 1350 1355 1360

Thr Arg Lys Leu Met Pro Ile Cys Met Asp Val Arg Ala Ile Met Ala
1365 1370 1375

SEQLIST-20480.TXT

Thr Ile Gln Arg Lys Tyr Lys Gly Ile Lys Ile Gln Glu Gly Ile Val
1380 1385 1390

Asp Tyr Gly Val Arg Phe Phe Phe Tyr Thr Ser Lys Glu Pro Val Ala
1395 1400 1405

Ser Ile Ile Thr Lys Leu Asn Ser Leu Asn Glu Pro Leu Val Thr Met
1410 1415 1420

Pro Ile Gly Tyr Val Thr His Gly Phe Asn Leu Glu Glu Ala Ala Arg
1425 1430 1435 1440

Cys Met Arg Ser Leu Lys Ala Pro Ala Val Val Ser Val Ser Ser Pro
1445 1450 1455

Asp Ala Val Thr Tyr Asn Gly Tyr Leu Thr Ser Ser Ser Lys Thr
1460 1465 1470

Ser Glu Glu His Phe Val Glu Thr Val Ser Leu Ala Gly Ser Tyr Arg
1475 1480 1485

Asp Trp Ser Tyr Ser Gly Gln Arg Thr Glu Leu Gly Val Glu Phe Leu
1490 1495 1500

Lys Arg Gly Asp Lys Ile Val Tyr His Thr Leu Glu Ser Pro Val Glu
1505 1510 1515 1520

Phe His Leu Asp Gly Glu Val Leu Ser Leu Asp Lys Leu Lys Ser Leu
1525 1530 1535

Leu Ser Leu Arg Glu Val Lys Thr Ile Lys Val Phe Thr Thr Val Asp
1540 1545 1550

Asn Thr Asn Leu His Thr Gln Leu Val Asp Met Ser Met Thr Tyr Gly
1555 1560 1565

Gln Gln Phe Gly Pro Thr Tyr Leu Asp Gly Ala Asp Val Thr Lys Ile
1570 1575 1580

Lys Pro His Val Asn His Glu Gly Lys Thr Phe Phe Val Leu Pro Ser
1585 1590 1595 1600

Asp Asp Thr Leu Arg Ser Glu Ala Phe Glu Tyr Tyr His Thr Leu Asp
1605 1610 1615

Glu Ser Phe Leu Gly Arg Tyr Met Ser Ala Leu Asn His Thr Lys Lys
1620 1625 1630

Trp Lys Phe Pro Gln Val Gly Gly Leu Thr Ser Ile Lys Trp Ala Asp
1635 1640 1645

Asn Asn Cys Tyr Leu Ser Ser Val Leu Leu Ala Leu Gln Gln Leu Glu
1650 1655 1660

Val Lys Phe Asn Ala Pro Ala Leu Gln Glu Ala Tyr Tyr Arg Ala Arg
1665 1670 1675 1680

Ala Gly Asp Ala Ala Asn Phe Cys Ala Leu Ile Leu Ala Tyr Ser Asn
1685 1690 1695

Lys Thr Val Gly Glu Leu Gly Asp Val Arg Glu Thr Met Thr His Leu
1700 1705 1710

SEQLIST-20480.TXT

Leu Gln His Ala Asn Leu Glu Ser Ala Lys Arg Val Leu Asn Val Val
1715 1720 1725

Cys Lys His Cys Gly Gln Lys Thr Thr Thr Leu Thr Gly Val Glu Ala
1730 1735 1740

Val Met Tyr Met Gly Thr Leu Ser Tyr Asp Asn Leu Lys Thr Gly Val
1745 1750 1755 1760

Ser Ile Pro Cys Val Cys Gly Arg Asp Ala Thr Gln Tyr Leu Val Gln
1765 1770 1775

Gln Glu Ser Ser Phe Val Met Met Ser Ala Pro Pro Ala Glu Tyr Lys
1780 1785 1790

Leu Gln Gln Gly Thr Phe Leu Cys Ala Asn Glu Tyr Thr Gly Asn Tyr
1795 1800 1805

Gln Cys Gly His Tyr Thr His Ile Thr Ala Lys Glu Thr Leu Tyr Arg
1810 1815 1820

Ile Asp Gly Ala His Leu Thr Lys Met Ser Glu Tyr Lys Gly Pro Val
1825 1830 1835 1840

Thr Asp Val Phe Tyr Lys Glu Thr Ser Tyr Thr Thr Thr Ile Lys Pro
1845 1850 1855

Val Ser Tyr Lys Leu Asp Gly Val Thr Tyr Thr Glu Ile Glu Pro Lys
1860 1865 1870

Leu Asp Gly Tyr Tyr Lys Lys Asp Asn Ala Tyr Tyr Thr Glu Gln Pro
1875 1880 1885

Ile Asp Leu Val Pro Thr Gln Pro Leu Pro Asn Ala Ser Phe Asp Asn
1890 1895 1900

Phe Lys Leu Thr Cys Ser Asn Thr Lys Phe Ala Asp Asp Leu Asn Gln
1905 1910 1915 1920

Met Thr Gly Phe Thr Lys Pro Ala Ser Arg Glu Leu Ser Val Thr Phe
1925 1930 1935

Phe Pro Asp Leu Asn Gly Asp Val Val Ala Ile Asp Tyr Arg His Tyr
1940 1945 1950

Ser Ala Ser Phe Lys Lys Gly Ala Lys Leu Leu His Lys Pro Ile Val
1955 1960 1965

Trp His Ile Asn Gln Ala Thr Thr Lys Thr Thr Phe Lys Pro Asn Thr
1970 1975 1980

Trp Cys Leu Arg Cys Leu Trp Ser Thr Lys Pro Val Asp Thr Ser Asn
1985 1990 1995 2000

Ser Phe Glu Val Leu Ala Val Glu Asp Thr Gln Gly Met Asp Asn Leu
2005 2010 2015

Ala Cys Glu Ser Gln Gln Pro Thr Ser Glu Glu Val Val Glu Asn Pro
2020 2025 2030

Thr Ile Gln Lys Glu Val Ile Glu Cys Asp Val Lys Thr Thr Glu Val
2035 2040 2045

SEQLIST-20480.TXT

Val Gly Asn Val Ile Leu Lys Pro Ser Asp Glu Gly Val Lys Val Thr
2050 2055 2060

Gln Glu Leu Gly His Glu Asp Leu Met Ala Ala Tyr Val Glu Asn Thr
2065 2070 2075 2080

Ser Ile Thr Ile Lys Lys Pro Asn Glu Leu Ser Leu Ala Leu Gly Leu
2085 2090 2095

Lys Thr Ile Ala Thr His Gly Ile Ala Ala Ile Asn Ser Val Pro Trp
2100 2105 2110

Ser Lys Ile Leu Ala Tyr Val Lys Pro Phe Leu Gly Gln Ala Ala Ile
2115 2120 2125

Thr Thr Ser Asn Cys Ala Lys Arg Leu Ala Gln Arg Val Phe Asn Asn
2130 2135 2140

Tyr Met Pro Tyr Val Phe Thr Leu Leu Phe Gln Leu Cys Thr Phe Thr
2145 2150 2155 2160

Lys Ser Thr Asn Ser Arg Ile Arg Ala Ser Leu Pro Thr Thr Ile Ala
2165 2170 2175

Lys Asn Ser Val Lys Ser Val Ala Lys Leu Cys Leu Asp Ala Gly Ile
2180 2185 2190

Asn Tyr Val Lys Ser Pro Lys Phe Ser Lys Leu Phe Thr Ile Ala Met
2195 2200 2205

Trp Leu Leu Leu Leu Ser Ile Cys Leu Gly Ser Leu Ile Cys Val Thr
2210 2215 2220

Ala Ala Phe Gly Val Leu Leu Ser Asn Phe Gly Ala Pro Ser Tyr Cys
2225 2230 2235 2240

Asn Gly Val Arg Glu Leu Tyr Leu Asn Ser Ser Asn Val Thr Thr Met
2245 2250 2255

Asp Phe Cys Glu Gly Ser Phe Pro Cys Ser Ile Cys Leu Ser Gly Leu
2260 2265 2270

Asp Ser Leu Asp Ser Tyr Pro Ala Leu Glu Thr Ile Gln Val Thr Ile
2275 2280 2285

Ser Ser Tyr Lys Leu Asp Leu Thr Ile Leu Gly Leu Ala Ala Glu Trp
2290 2295 2300

Val Leu Ala Tyr Met Leu Phe Thr Lys Phe Phe Tyr Leu Leu Gly Leu
2305 2310 2315 2320

Ser Ala Ile Met Gln Val Phe Phe Gly Tyr Phe Ala Ser His Phe Ile
2325 2330 2335

Ser Asn Ser Trp Leu Met Trp Phe Ile Ile Ser Ile Val Gln Met Ala
2340 2345 2350

Pro Val Ser Ala Met Val Arg Met Tyr Ile Phe Phe Ala Ser Phe Tyr
2355 2360 2365

Tyr Ile Trp Lys Ser Tyr Val His Ile Met Asp Gly Cys Thr Ser Ser
2370 2375 2380

SEQLIST-20480.TXT

Thr Cys Met Met Cys Tyr Lys Arg Asn Arg Ala Thr Arg Val Glu Cys
 2385 2390 2395 2400
 Thr Thr Ile Val Asn Gly Met Lys Arg Ser Phe Tyr Val Tyr Ala Asn
 2405 2410 2415
 Gly Gly Arg Gly Phe Cys Lys Thr His Asn Trp Asn Cys Leu Asn Cys
 2420 2425 2430
 Asp Thr Phe Cys Thr Gly Ser Thr Phe Ile Ser Asp Glu Val Ala Arg
 2435 2440 2445
 Asp Leu Ser Leu Gln Phe Lys Arg Pro Ile Asn Pro Thr Asp Gln Ser
 2450 2455 2460
 Ser Tyr Ile Val Asp Ser Val Ala Val Lys Asn Gly Ala Leu His Leu
 2465 2470 2475 2480
 Tyr Phe Asp Lys Ala Gly Gln Lys Thr Tyr Glu Arg His Pro Leu Ser
 2485 2490 2495
 His Phe Val Asn Leu Asp Asn Leu Arg Ala Asn Asn Thr Lys Gly Ser
 2500 2505 2510
 Leu Pro Ile Asn Val Ile Val Phe Asp Gly Lys Ser Lys Cys Asp Glu
 2515 2520 2525
 Ser Ala Ser Lys Ser Ala Ser Val Tyr Tyr Ser Gln Leu Met Cys Gln
 2530 2535 2540
 Pro Ile Leu Leu Leu Asp Gln Ala Leu Val Ser Asp Val Gly Asp Ser
 2545 2550 2555 2560
 Thr Glu Val Ser Val Lys Met Phe Asp Ala Tyr Val Asp Thr Phe Ser
 2565 2570 2575
 Ala Thr Phe Ser Val Pro Met Glu Lys Leu Lys Ala Leu Val Ala Thr
 2580 2585 2590
 Ala His Ser Glu Leu Ala Lys Gly Val Ala Leu Asp Gly Val Leu Ser
 2595 2600 2605
 Thr Phe Val Ser Ala Ala Arg Gln Gly Val Val Asp Thr Asp Val Asp
 2610 2615 2620
 Thr Lys Asp Val Ile Glu Cys Leu Lys Leu Ser His His Ser Asp Leu
 2625 2630 2635 2640
 Glu Val Thr Gly Asp Ser Cys Asn Asn Phe Met Leu Thr Tyr Asn Lys
 2645 2650 2655
 Val Glu Asn Met Thr Pro Arg Asp Leu Gly Ala Cys Ile Asp Cys Asn
 2660 2665 2670
 Ala Arg His Ile Asn Ala Gln Val Ala Lys Ser His Asn Val Ser Leu
 2675 2680 2685
 Ile Trp Asn Val Lys Asp Tyr Met Ser Leu Ser Glu Gln Leu Arg Lys
 2690 2695 2700
 Gln Ile Arg Ser Ala Ala Lys Lys Asn Asn Ile Pro Phe Arg Leu Thr
 2705 2710 2715 2720

SEQLIST-20480.TXT

Cys Ala Thr Thr Arg Gln Val Val Asn Val Ile Thr Thr Lys Ile Ser
2725 2730 2735

Leu Lys Gly Gly Lys Ile Val Ser Thr Cys Phe Lys Leu Met Leu Lys
2740 2745 2750

Ala Thr Leu Leu Cys Val Leu Ala Ala Leu Val Cys Tyr Ile Val Met
2755 2760 2765

Pro Val His Thr Leu Ser Ile His Asp Gly Tyr Thr Asn Glu Ile Ile
2770 2775 2780

Gly Tyr Lys Ala Ile Gln Asp Gly Val Thr Arg Asp Ile Ile Ser Thr
2785 2790 2795 2800

Asp Asp Cys Phe Ala Asn Lys His Ala Gly Phe Asp Ala Trp Phe Ser
2805 2810 2815

Gln Arg Gly Gly Ser Tyr Lys Asn Asp Lys Ser Cys Pro Val Val Ala
2820 2825 2830

Ala Ile Ile Thr Arg Glu Ile Gly Phe Ile Val Pro Gly Leu Pro Gly
2835 2840 2845

Thr Val Leu Arg Ala Ile Asn Gly Asp Phe Leu His Phe Leu Pro Arg
2850 2855 2860

Val Phe Ser Ala Val Gly Asn Ile Cys Tyr Thr Pro Ser Lys Leu Ile
2865 2870 2875 2880

Glu Tyr Ser Asp Phe Ala Thr Ser Ala Cys Val Leu Ala Ala Glu Cys
2885 2890 2895

Thr Ile Phe Lys Asp Ala Met Gly Lys Pro Val Pro Tyr Cys Tyr Asp
2900 2905 2910

Thr Asn Leu Leu Glu Gly Ser Ile Ser Tyr Ser Glu Leu Arg Pro Asp
2915 2920 2925

Thr Arg Tyr Val Leu Met Asp Gly Ser Ile Ile Gln Phe Pro Asn Thr
2930 2935 2940

Tyr Leu Glu Gly Ser Val Arg Val Val Thr Thr Phe Asp Ala Glu Tyr
2945 2950 2955 2960

Cys Arg His Gly Thr Cys Glu Arg Ser Glu Val Gly Ile Cys Leu Ser
2965 2970 2975

Thr Ser Gly Arg Trp Val Leu Asn Asn Glu His Tyr Arg Ala Leu Ser
2980 2985 2990

Gly Val Phe Cys Gly Val Asp Ala Met Asn Leu Ile Ala Asn Ile Phe
2995 3000 3005

Thr Pro Leu Val Gln Pro Val Gly Ala Leu Asp Val Ser Ala Ser Val
3010 3015 3020

Val Ala Gly Gly Ile Ile Ala Ile Leu Val Thr Cys Ala Ala Tyr Tyr
3025 3030 3035 3040

Phe Met Lys Phe Arg Arg Val Phe Gly Glu Tyr Asn His Val Val Ala
3045 3050 3055

SEQLIST-20480.TXT

Ala Asn Ala Leu Leu Phe Leu Met Ser Phe Thr Ile Leu Cys Leu Val
3060 3065 3070

Pro Ala Tyr Ser Phe Leu Pro Gly Val Tyr Ser Val Phe Tyr Leu Tyr
3075 3080 3085

Leu Thr Phe Tyr Phe Thr Asn Asp Val Ser Phe Leu Ala His Leu Gln
3090 3095 3100

Trp Phe Ala Met Phe Ser Pro Ile Val Pro Phe Trp Ile Thr Ala Ile
3105 3110 3115 3120

Tyr Val Phe Cys Ile Ser Leu Lys His Cys His Trp Phe Phe Asn Asn
3125 3130 3135

Tyr Leu Arg Lys Arg Val Met Phe Asn Gly Val Thr Phe Ser Thr Phe
3140 3145 3150

Glu Glu Ala Ala Leu Cys Thr Phe Leu Leu Asn Lys Glu Met Tyr Leu
3155 3160 3165

Lys Leu Arg Ser Glu Thr Leu Leu Pro Leu Thr Gln Tyr Asn Arg Tyr
3170 3175 3180

Leu Ala Leu Tyr Asn Lys Tyr Lys Tyr Phe Ser Gly Ala Leu Asp Thr
3185 3190 3195 3200

Thr Ser Tyr Arg Glu Ala Ala Cys Cys His Leu Ala Lys Ala Leu Asn
3205 3210 3215

Asp Phe Ser Asn Ser Gly Ala Asp Val Leu Tyr Gln Pro Pro Gln Thr
3220 3225 3230

Ser Ile Thr Ser Ala Val Leu Gln Ser Gly Phe Arg Lys Met Ala Phe
3235 3240 3245

Pro Ser Gly Lys Val Glu Gly Cys Met Val Gln Val Thr Cys Gly Thr
3250 3255 3260

Thr Thr Leu Asn Gly Leu Trp Leu Asp Asp Thr Val Tyr Cys Pro Arg
3265 3270 3275 3280

His Val Ile Cys Thr Ala Glu Asp Met Leu Asn Pro Asn Tyr Glu Asp
3285 3290 3295

Leu Leu Ile Arg Lys Ser Asn His Ser Phe Leu Val Gln Ala Gly Asn
3300 3305 3310

Val Gln Leu Arg Val Ile Gly His Ser Met Gln Asn Cys Leu Leu Arg
3315 3320 3325

Leu Lys Val Asp Thr Ser Asn Pro Lys Thr Pro Lys Tyr Lys Phe Val
3330 3335 3340

Arg Ile Gln Pro Gly Gln Thr Phe Ser Val Leu Ala Cys Tyr Asn Gly
3345 3350 3355 3360

Ser Pro Ser Gly Val Tyr Gln Cys Ala Met Arg Pro Asn His Thr Ile
3365 3370 3375

Lys Gly Ser Phe Leu Asn Gly Ser Cys Gly Ser Val Gly Phe Asn Ile
3380 3385 3390

SEQLIST-20480.TXT

Asp Tyr Asp Cys Val Ser Phe Cys Tyr Met His His Met Glu Leu Pro
 3395 3400 3405
 Thr Gly Val His Ala Gly Thr Asp Leu Glu Gly Lys Phe Tyr Gly Pro
 3410 3415 3420
 Phe Val Asp Arg Gln Thr Ala Gln Ala Ala Gly Thr Asp Thr Thr Ile
 3425 3430 3435 3440
 Thr Leu Asn Val Leu Ala Trp Leu Tyr Ala Ala Val Ile Asn Gly Asp
 3445 3450 3455
 Arg Trp Phe Leu Asn Arg Phe Thr Thr Thr Leu Asn Asp Phe Asn Leu
 3460 3465 3470
 Val Ala Met Lys Tyr Asn Tyr Glu Pro Leu Thr Gln Asp His Val Asp
 3475 3480 3485
 Ile Leu Gly Pro Leu Ser Ala Gln Thr Gly Ile Ala Val Leu Asp Met
 3490 3495 3500
 Cys Ala Ala Leu Lys Glu Leu Leu Gln Asn Gly Met Asn Gly Arg Thr
 3505 3510 3515 3520
 Ile Leu Gly Ser Thr Ile Leu Glu Asp Glu Phe Thr Pro Phe Asp Val
 3525 3530 3535
 Val Arg Gln Cys Ser Gly Val Thr Phe Gln Gly Lys Phe Lys Lys Ile
 3540 3545 3550
 Val Lys Gly Thr His His Trp Met Leu Leu Thr Phe Leu Thr Ser Leu
 3555 3560 3565
 Leu Ile Leu Val Gln Ser Thr Gln Trp Ser Leu Phe Phe Phe Val Tyr
 3570 3575 3580
 Glu Asn Ala Phe Leu Pro Phe Thr Leu Gly Ile Met Ala Ile Ala Ala
 3585 3590 3595 3600
 Cys Ala Met Leu Leu Val Lys His Lys His Ala Phe Leu Cys Leu Phe
 3605 3610 3615
 Leu Leu Pro Ser Leu Ala Thr Val Ala Tyr Phe Asn Met Val Tyr Met
 3620 3625 3630
 Pro Ala Ser Trp Val Met Arg Ile Met Thr Trp Leu Glu Leu Ala Asp
 3635 3640 3645
 Thr Ser Leu Ser Gly Tyr Arg Leu Lys Asp Cys Val Met Tyr Ala Ser
 3650 3655 3660
 Ala Leu Val Leu Leu Ile Leu Met Thr Ala Arg Thr Val Tyr Asp Asp
 3665 3670 3675 3680
 Ala Ala Arg Arg Val Trp Thr Leu Met Asn Val Ile Thr Leu Val Tyr
 3685 3690 3695
 Lys Val Tyr Tyr Gly Asn Ala Leu Asp Gln Ala Ile Ser Met Trp Ala
 3700 3705 3710
 Leu Val Ile Ser Val Thr Ser Asn Tyr Ser Gly Val Val Thr Thr Ile
 3715 3720 3725

SEQLIST-20480.TXT

Met Phe Leu Ala Arg Ala Ile Val Phe Val Cys Val Glu Tyr Tyr Pro
3730 3735 3740

Leu Leu Phe Ile Thr Gly Asn Thr Leu Gln Cys Ile Met Leu Val Tyr
3745 3750 3755 3760

Cys Phe Leu Gly Tyr Cys Cys Cys Cys Tyr Phe Gly Leu Phe Cys Leu
3765 3770 3775

Leu Asn Arg Tyr Phe Arg Leu Thr Leu Gly Val Tyr Asp Tyr Leu Val
3780 3785 3790

Ser Thr Gln Glu Phe Arg Tyr Met Asn Ser Gln Gly Leu Leu Pro Pro
3795 3800 3805

Lys Ser Ser Ile Asp Ala Phe Lys Leu Asn Ile Lys Leu Leu Gly Ile
3810 3815 3820

Gly Gly Lys Pro Cys Ile Lys Val Ala Thr Val Gln Ser Lys Met Ser
3825 3830 3835 3840

Asp Val Lys Cys Thr Ser Val Val Leu Leu Ser Val Leu Gln Gln Leu
3845 3850 3855

Arg Val Glu Ser Ser Ser Lys Leu Trp Ala Gln Cys Val Gln Leu His
3860 3865 3870

Asn Asp Ile Leu Leu Ala Lys Asp Thr Thr Glu Ala Phe Glu Lys Met
3875 3880 3885

Val Ser Leu Leu Ser Val Leu Leu Ser Met Gln Gly Ala Val Asp Ile
3890 3895 3900

Asn Arg Leu Cys Glu Glu Met Leu Asp Asn Arg Ala Thr Leu Gln Ala
3905 3910 3915 3920

Ile Ala Ser Glu Phe Ser Ser Leu Pro Ser Tyr Ala Ala Tyr Ala Thr
3925 3930 3935

Ala Gln Glu Ala Tyr Glu Gln Ala Val Ala Asn Gly Asp Ser Glu Val
3940 3945 3950

Val Leu Lys Lys Leu Lys Lys Ser Leu Asn Val Ala Lys Ser Glu Phe
3955 3960 3965

Asp Arg Asp Ala Ala Met Gln Arg Lys Leu Glu Lys Met Ala Asp Gln
3970 3975 3980

Ala Met Thr Gln Met Tyr Lys Gln Ala Arg Ser Glu Asp Lys Arg Ala
3985 3990 3995 4000

Lys Val Thr Ser Ala Met Gln Thr Met Leu Phe Thr Met Leu Arg Lys
4005 4010 4015

Leu Asp Asn Asp Ala Leu Asn Asn Ile Ile Asn Asn Ala Arg Asp Gly
4020 4025 4030

Cys Val Pro Leu Asn Ile Ile Pro Leu Thr Thr Ala Ala Lys Leu Met
4035 4040 4045

Val Val Val Pro Asp Tyr Gly Thr Tyr Lys Asn Thr Cys Asp Gly Asn
4050 4055 4060

SEQLIST-20480.TXT

Thr Phe Thr Tyr Ala Ser Ala Leu Trp Glu Ile Gln Gln Val Val Asp
4065 4070 4075 4080

Ala Asp Ser Lys Ile Val Gln Leu Ser Glu Ile Asn Met Asp Asn Ser
4085 4090 4095

Pro Asn Leu Ala Trp Pro Leu Ile Val Thr Ala Leu Arg Ala Asn Ser
4100 4105 4110

Ala Val Lys Leu Gln Asn Asn Glu Leu Ser Pro Val Ala Leu Arg Gln
4115 4120 4125

Met Ser Cys Ala Ala Gly Thr Thr Gln Thr Ala Cys Thr Asp Asp Asn
4130 4135 4140

Ala Leu Ala Tyr Tyr Asn Asn Ser Lys Gly Gly Arg Phe Val Leu Ala
4145 4150 4155 4160

Leu Leu Ser Asp His Gln Asp Leu Lys Trp Ala Arg Phe Pro Lys Ser
4165 4170 4175

Asp Gly Thr Gly Thr Ile Tyr Thr Glu Leu Glu Pro Pro Cys Arg Phe
4180 4185 4190

Val Thr Asp Thr Pro Lys Gly Pro Lys Val Lys Tyr Leu Tyr Phe Ile
4195 4200 4205

Lys Gly Leu Asn Asn Leu Asn Arg Gly Met Val Leu Gly Ser Leu Ala
4210 4215 4220

Ala Thr Val Arg Leu Gln Ala Gly Asn Ala Thr Glu Val Pro Ala Asn
4225 4230 4235 4240

Ser Thr Val Leu Ser Phe Cys Ala Phe Ala Val Asp Pro Ala Lys Ala
4245 4250 4255

Tyr Lys Asp Tyr Leu Ala Ser Gly Gly Gln Pro Ile Thr Asn Cys Val
4260 4265 4270

Lys Met Leu Cys Thr His Thr Gly Thr Gly Gln Ala Ile Thr Val Thr
4275 4280 4285

Pro Glu Ala Asn Met Asp Gln Glu Ser Phe Gly Gly Ala Ser Cys Cys
4290 4295 4300

Leu Tyr Cys Arg Cys His Ile Asp His Pro Asn Pro Lys Gly Phe Cys
4305 4310 4315 4320

Asp Leu Lys Gly Lys Tyr Val Gln Ile Pro Thr Thr Cys Ala Asn Asp
4325 4330 4335

Pro Val Gly Phe Thr Leu Arg Asn Thr Val Cys Thr Val Cys Gly Met
4340 4345 4350

Trp Lys Gly Tyr Gly Cys Ser Cys Asp Gln Leu Arg Glu Pro Leu Met
4355 4360 4365

Gln Ser Ala Asp Ala Ser Thr Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Val
4370 4375 4380

Ser Ala Ala Arg Leu Thr Pro Cys Gly Thr Gly Thr Ser Thr Asp Val
4385 4390 4395 4400

SEQLIST-20480.TXT

Val Tyr Arg Ala Phe Asp Ile Tyr Asn Glu Lys Val Ala Gly Phe Ala
4405 4410 4415

Lys Phe Leu Lys Thr Asn Cys Cys Arg Phe Gln Glu Lys Asp Glu Glu
4420 4425 4430

Gly Asn Leu Leu Asp Ser Tyr Phe Val Val Lys Arg His Thr Met Ser
4435 4440 4445

Asn Tyr Gln His Glu Glu Thr Ile Tyr Asn Leu Val Lys Asp Cys Pro
4450 4455 4460

Ala Val Ala Val His Asp Phe Phe Lys Phe Arg Val Asp Gly Asp Met
4465 4470 4475 4480

Val Pro His Ile Ser Arg Gln Arg Leu Thr Lys Tyr Thr Met Ala Asp
4485 4490 4495

Leu Val Tyr Ala Leu Arg His Phe Asp Glu Gly Asn Cys Asp Thr Leu
4500 4505 4510

Lys Glu Ile Leu Val Thr Tyr Asn Cys Cys Asp Asp Asp Tyr Phe Asn
4515 4520 4525

Lys Lys Asp Trp Tyr Asp Phe Val Glu Asn Pro Asp Ile Leu Arg Val
4530 4535 4540

Tyr Ala Asn Leu Gly Glu Arg Val Arg Gln Ser Leu Leu Lys Thr Val
4545 4550 4555 4560

Gln Phe Cys Asp Ala Met Arg Asp Ala Gly Ile Val Gly Val Leu Thr
4565 4570 4575

Leu Asp Asn Gln Asp Leu Asn Gly Asn Trp Tyr Asp Phe Gly Asp Phe
4580 4585 4590

Val Gln Val Ala Pro Gly Cys Gly Val Pro Ile Val Asp Ser Tyr Tyr
4595 4600 4605

Ser Leu Leu Met Pro Ile Leu Thr Leu Thr Arg Ala Leu Ala Ala Glu
4610 4615 4620

Ser His Met Asp Ala Asp Leu Ala Lys Pro Leu Ile Lys Trp Asp Leu
4625 4630 4635 4640

Leu Lys Tyr Asp Phe Thr Glu Glu Arg Leu Cys Leu Phe Asp Arg Tyr
4645 4650 4655

Phe Lys Tyr Trp Asp Gln Thr Tyr His Pro Asn Cys Ile Asn Cys Leu
4660 4665 4670

Asp Asp Arg Cys Ile Leu His Cys Ala Asn Phe Asn Val Leu Phe Ser
4675 4680 4685

Thr Val Phe Pro Pro Thr Ser Phe Gly Pro Leu Val Arg Lys Ile Phe
4690 4695 4700

Val Asp Gly Val Pro Phe Val Val Ser Thr Gly Tyr His Phe Arg Glu
4705 4710 4715 4720

Leu Gly Val Val His Asn Gln Asp Val Asn Leu His Ser Ser Arg Leu
4725 4730 4735

SEQLIST-20480.TXT

Ser Phe Lys Glu Leu Leu Val Tyr Ala Ala Asp Pro Ala Met His Ala
4740 4745 4750

Ala Ser Gly Asn Leu Leu Leu Asp Lys Arg Thr Thr Cys Phe Ser Val
4755 4760 4765

Ala Ala Leu Thr Asn Asn Val Ala Phe Gln Thr Val Lys Pro Gly Asn
4770 4775 4780

Phe Asn Lys Asp Phe Tyr Asp Phe Ala Val Ser Lys Gly Phe Phe Lys
4785 4790 4795 4800

Glu Gly Ser Ser Val Glu Leu Lys His Phe Phe Phe Ala Gln Asp Gly
4805 4810 4815

Asn Ala Ala Ile Ser Asp Tyr Asp Tyr Tyr Arg Tyr Asn Leu Pro Thr
4820 4825 4830

Met Cys Asp Ile Arg Gln Leu Leu Phe Val Val Glu Val Val Asp Lys
4835 4840 4845

Tyr Phe Asp Cys Tyr Asp Gly Gly Cys Ile Asn Ala Asn Gln Val Ile
4850 4855 4860

Val Asn Asn Leu Asp Lys Ser Ala Gly Phe Pro Phe Asn Lys Trp Gly
4865 4870 4875 4880

Lys Ala Arg Leu Tyr Tyr Asp Ser Met Ser Tyr Glu Asp Gln Asp Ala
4885 4890 4895

Leu Phe Ala Tyr Thr Lys Arg Asn Val Ile Pro Thr Ile Thr Gln Met
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Asn Leu Lys Tyr Ala Ile Ser Ala Lys Asn Arg Ala Arg Thr Val Ala
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Gly Val Ser Ile Cys Ser Thr Met Thr Asn Arg Gln Phe His Gln Lys
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Leu Leu Lys Ser Ile Ala Ala Thr Arg Gly Ala Thr Val Val Ile Gly
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Arg Glu Val Leu Ser Asp Arg Glu Leu His Leu Ser Trp Glu Val Gly
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Lys Pro Arg Pro Pro Leu Asn Arg Asn Tyr Val Phe Thr Gly Tyr Arg
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Val Pro Leu Lys Ser Ala Thr Cys Ile Thr Arg Cys Asn Leu Gly Gly
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 Gly His Phe Ser Trp Trp Thr Ala Phe Val Thr Asn Val Asn Ala Ser
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 20 25 30
 Asp Ser Val Glu Glu Ala Leu Ser Glu Ala Arg Glu His Leu Lys Asn
 35 40 45
 Gly Thr Cys Gly Leu Val Glu Leu Glu Lys Gly Val Leu Pro Gln Leu
 50 55 60
 Glu Gln Pro Tyr Val Phe Ile Lys Arg Ser Asp Ala Leu Ser Thr Asn
 65 70 75 80
 His Gly His Lys Val Val Glu Leu Val Ala Glu Met Asp Gly Ile Gln
 85 90 95
 Tyr Gly Arg Ser Gly Ile Thr Leu Gly Val Leu Val Pro His Val Gly
 100 105 110
 Glu Thr Pro Ile Ala Tyr Arg Asn Val Leu Leu Arg Lys Asn Gly Asn
 115 120 125
 Lys Gly Ala Gly Gly His Ser Tyr Gly Ile Asp Leu Lys Ser Tyr Asp
 130 135 140
 Leu Gly Asp Glu Leu Gly Thr Asp Pro Ile Glu Asp Tyr Glu Gln Asn
 145 150 155 160
 Trp Asn Thr Lys His Gly Ser Gly Ala Leu Arg Glu Leu Thr Arg Glu
 165 170 175
 Leu Asn Gly Gly Ala Val Thr Arg Tyr Val Asp Asn Asn Phe Cys Gly
 180 185 190
 Pro Asp Gly Tyr Pro Leu Asp Cys Ile Lys Asp Phe Leu Ala Arg Ala
 195 200 205
 Gly Lys Ser Met Cys Thr Leu Ser Glu Gln Leu Asp Tyr Ile Glu Ser
 210 215 220
 Lys Arg Gly Val Tyr Cys Cys Arg Asp His Glu His Glu Ile Ala Trp
 225 230 235 240
 Phe Thr Glu Arg Ser Asp Lys Ser Tyr Glu His Gln Thr Pro Phe Glu
 245 250 255
 Ile Lys Ser Ala Lys Lys Phe Asp Thr Phe Lys Gly Glu Cys Pro Lys
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 Phe Val Phe Pro Leu Asn Ser Lys Val Lys Val Ile Gln Pro Arg Val

275 280 285

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			Leu 635	Ser
			Ala	Gly
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Phe	Leu	Lys	Asp	Ala 645
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			Phe	Leu
			Ile	Thr
				Gly 655
Phe	Asp	Ile	Val 660	Lys
		Gly	Gln	Ile
			Gln 665	Val
			Ala	Ser
			Asp	Asn 670
			Ile	Lys
Asp	Cys	Val 675	Lys	Cys
			Phe	Ile
			Asp 680	Val
			Val	Val
			Asn	Lys
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			Glu	Met
Cys	Ile 690	Asp	Gln	Val
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			Lys	Lys
			Leu 700	Arg
			Ser	Leu
			Asn	
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			Gln	Ser
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			Arg	Gln
			Cys	720
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			Gln	Leu
			Leu 730	Met
			Pro	Leu
			Lys	Ala
				Pro 735
Lys	Glu	Val	Thr 740	Phe
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			Gly	Asp 745
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			Asp	Thr
			Val 750	Leu
			Thr	
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			Leu	Lys
			Asn 760	Gly
			Glu	Leu
			Glu	Ala
				Leu
			Glu	Thr
Pro	Val 770	Asp	Ser	Phe
			Thr	Asn 775
			Gly	Ala
			Ile	Val
			Gly 780	Thr
			Pro	Val
			Cys	
Val 785	Asn	Gly	Leu	Met
			Leu 790	Leu
			Glu	Ile
			Lys	Asp 795
			Lys	Glu
			Gln	Tyr
			Cys	800
Ala	Leu	Ser	Pro	Gly 805
			Leu	Leu
			Ala	Thr
			Asn 810	Asn
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			Arg	Leu
			Lys	815
Gly	Gly	Ala	Pro 820	Ile
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			Glu	
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			Leu	Asn 855
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			Cys	Ser
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			Glu	
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			Ala	Cys
			Val 875	Val
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			Ala	Val 880
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			Leu 890	Leu
			Thr	Asn
			Met	Gly 895
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			Phe	Tyr
			Leu	Phe
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			Ala	
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			Ser	Phe 925
			Tyr	Pro
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Gln Cys Gly His Tyr Thr His Ile Thr Ala Lys Glu Thr Leu Tyr Arg		
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Ile Asp Leu Val Pro Thr Gln Pro Leu Pro Asn Ala Ser Phe Asp Asn		
1890	1895	1900
Phe Lys Leu Thr Cys Ser Asn Thr Lys Phe Ala Asp Asp Leu Asn Gln		
1905	1910	1915
Met Thr Gly Phe Thr Lys Pro Ala Ser Arg Glu Leu Ser Val Thr Phe		
1925	1930	1935
Phe Pro Asp Leu Asn Gly Asp Val Val Ala Ile Asp Tyr Arg His Tyr		
1940	1945	1950
Ser Ala Ser Phe Lys Lys Gly Ala Lys Leu Leu His Lys Pro Ile Val		

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1955	1960	1965
Trp His Ile Asn Gln Ala Thr Thr Lys Thr Thr Phe Lys Pro Asn Thr 1970 1975 1980		
Trp Cys Leu Arg Cys Leu Trp Ser Thr Lys Pro Val Asp Thr Ser Asn 1985 1990 1995 2000		
Ser Phe Glu Val Leu Ala Val Glu Asp Thr Gln Gly Met Asp Asn Leu 2005 2010 2015		
Ala Cys Glu Ser Gln Gln Pro Thr Ser Glu Glu Val Val Glu Asn Pro 2020 2025 2030		
Thr Ile Gln Lys Glu Val Ile Glu Cys Asp Val Lys Thr Thr Glu Val 2035 2040 2045		
Val Gly Asn Val Ile Leu Lys Pro Ser Asp Glu Gly Val Lys Val Thr 2050 2055 2060		
Gln Glu Leu Gly His Glu Asp Leu Met Ala Ala Tyr Val Glu Asn Thr 2065 2070 2075 2080		
Ser Ile Thr Ile Lys Lys Pro Asn Glu Leu Ser Leu Ala Leu Gly Leu 2085 2090 2095		
Lys Thr Ile Ala Thr His Gly Ile Ala Ala Ile Asn Ser Val Pro Trp 2100 2105 2110		
Ser Lys Ile Leu Ala Tyr Val Lys Pro Phe Leu Gly Gln Ala Ala Ile 2115 2120 2125		
Thr Thr Ser Asn Cys Ala Lys Arg Leu Ala Gln Arg Val Phe Asn Asn 2130 2135 2140		
Tyr Met Pro Tyr Val Phe Thr Leu Leu Phe Gln Leu Cys Thr Phe Thr 2145 2150 2155 2160		
Lys Ser Thr Asn Ser Arg Ile Arg Ala Ser Leu Pro Thr Thr Ile Ala 2165 2170 2175		
Lys Asn Ser Val Lys Ser Val Ala Lys Leu Cys Leu Asp Ala Gly Ile 2180 2185 2190		
Asn Tyr Val Lys Ser Pro Lys Phe Ser Lys Leu Phe Thr Ile Ala Met 2195 2200 2205		
Trp Leu Leu Leu Ser Ile Cys Leu Gly Ser Leu Ile Cys Val Thr 2210 2215 2220		
Ala Ala Phe Gly Val Leu Leu Ser Asn Phe Gly Ala Pro Ser Tyr Cys 2225 2230 2235 2240		
Asn Gly Val Arg Glu Leu Tyr Leu Asn Ser Ser Asn Val Thr Thr Met 2245 2250 2255		
Asp Phe Cys Glu Gly Ser Phe Pro Cys Ser Ile Cys Leu Ser Gly Leu 2260 2265 2270		
Asp Ser Leu Asp Ser Tyr Pro Ala Leu Glu Thr Ile Gln Val Thr Ile 2275 2280 2285		
Ser Ser Tyr Lys Leu Asp Leu Thr Ile Leu Gly Leu Ala Ala Glu Trp		

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2290 2295 2300
 Val Leu Ala Tyr Met Leu Phe Thr Lys Phe Phe Tyr Leu Leu Gly Leu
 2305 2310 2315 2320
 Ser Ala Ile Met Gln Val Phe Phe Gly Tyr Phe Ala Ser His Phe Ile
 2325 2330 2335
 Ser Asn Ser Trp Leu Met Trp Phe Ile Ile Ser Ile Val Gln Met Ala
 2340 2345 2350
 Pro Val Ser Ala Met Val Arg Met Tyr Ile Phe Phe Ala Ser Phe Tyr
 2355 2360 2365
 Tyr Ile Trp Lys Ser Tyr Val His Ile Met Asp Gly Cys Thr Ser Ser
 2370 2375 2380
 Thr Cys Met Met Cys Tyr Lys Arg Asn Arg Ala Thr Arg Val Glu Cys
 2385 2390 2395 2400
 Thr Thr Ile Val Asn Gly Met Lys Arg Ser Phe Tyr Val Tyr Ala Asn
 2405 2410 2415
 Gly Gly Arg Gly Phe Cys Lys Thr His Asn Trp Asn Cys Leu Asn Cys
 2420 2425 2430
 Asp Thr Phe Cys Thr Gly Ser Thr Phe Ile Ser Asp Glu Val Ala Arg
 2435 2440 2445
 Asp Leu Ser Leu Gln Phe Lys Arg Pro Ile Asn Pro Thr Asp Gln Ser
 2450 2455 2460
 Ser Tyr Ile Val Asp Ser Val Ala Val Lys Asn Gly Ala Leu His Leu
 2465 2470 2475 2480
 Tyr Phe Asp Lys Ala Gly Gln Lys Thr Tyr Glu Arg His Pro Leu Ser
 2485 2490 2495
 His Phe Val Asn Leu Asp Asn Leu Arg Ala Asn Asn Thr Lys Gly Ser
 2500 2505 2510
 Leu Pro Ile Asn Val Ile Val Phe Asp Gly Lys Ser Lys Cys Asp Glu
 2515 2520 2525
 Ser Ala Ser Lys Ser Ala Ser Val Tyr Tyr Ser Gln Leu Met Cys Gln
 2530 2535 2540
 Pro Ile Leu Leu Leu Asp Gln Ala Leu Val Ser Asp Val Gly Asp Ser
 2545 2550 2555 2560
 Thr Glu Val Ser Val Lys Met Phe Asp Ala Tyr Val Asp Thr Phe Ser
 2565 2570 2575
 Ala Thr Phe Ser Val Pro Met Glu Lys Leu Lys Ala Leu Val Ala Thr
 2580 2585 2590
 Ala His Ser Glu Leu Ala Lys Gly Val Ala Leu Asp Gly Val Leu Ser
 2595 2600 2605
 Thr Phe Val Ser Ala Ala Arg Gln Gly Val Val Asp Thr Asp Val Asp
 2610 2615 2620
 Thr Lys Asp Val Ile Glu Cys Leu Lys Leu Ser His His Ser Asp Leu

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2625		2630		2635		2640
Glu Val Thr Gly	Asp Ser Cys Asn Asn Phe Met Leu Thr Tyr Asn Lys					
	2645			2650		2655
Val Glu Asn Met Thr Pro Arg Asp	Leu Gly Ala Cys Ile Asp Cys Asn					
	2660		2665		2670	
Ala Arg His Ile Asn Ala Gln Val Ala Lys Ser His Asn Val Ser Leu						
	2675		2680		2685	
Ile Trp Asn Val Lys Asp Tyr Met Ser Leu Ser Glu Gln Leu Arg Lys						
	2690		2695		2700	
Gln Ile Arg Ser Ala Ala Lys Lys Asn Asn Ile Pro Phe Arg Leu Thr						
	2705		2710		2715	2720
Cys Ala Thr Thr Arg Gln Val Val Asn Val Ile Thr Thr Lys Ile Ser						
	2725		2730		2735	
Leu Lys Gly Gly Lys Ile Val Ser Thr Cys Phe Lys Leu Met Leu Lys						
	2740		2745		2750	
Ala Thr Leu Leu Cys Val Leu Ala Ala Leu Val Cys Tyr Ile Val Met						
	2755		2760		2765	
Pro Val His Thr Leu Ser Ile His Asp Gly Tyr Thr Asn Glu Ile Ile						
	2770		2775		2780	
Gly Tyr Lys Ala Ile Gln Asp Gly Val Thr Arg Asp Ile Ile Ser Thr						
	2785		2790		2795	2800
Asp Asp Cys Phe Ala Asn Lys His Ala Gly Phe Asp Ala Trp Phe Ser						
	2805		2810		2815	
Gln Arg Gly Gly Ser Tyr Lys Asn Asp Lys Ser Cys Pro Val Val Ala						
	2820		2825		2830	
Ala Ile Ile Thr Arg Glu Ile Gly Phe Ile Val Pro Gly Leu Pro Gly						
	2835		2840		2845	
Thr Val Leu Arg Ala Ile Asn Gly Asp Phe Leu His Phe Leu Pro Arg						
	2850		2855		2860	
Val Phe Ser Ala Val Gly Asn Ile Cys Tyr Thr Pro Ser Lys Leu Ile						
	2865		2870		2875	2880
Glu Tyr Ser Asp Phe Ala Thr Ser Ala Cys Val Leu Ala Ala Glu Cys						
	2885		2890		2895	
Thr Ile Phe Lys Asp Ala Met Gly Lys Pro Val Pro Tyr Cys Tyr Asp						
	2900		2905		2910	
Thr Asn Leu Leu Glu Gly Ser Ile Ser Tyr Ser Glu Leu Arg Pro Asp						
	2915		2920		2925	
Thr Arg Tyr Val Leu Met Asp Gly Ser Ile Ile Gln Phe Pro Asn Thr						
	2930		2935		2940	
Tyr Leu Glu Gly Ser Val Arg Val Val Thr Thr Phe Asp Ala Glu Tyr						
	2945		2950		2955	2960
Cys Arg His Gly Thr Cys Glu Arg Ser Glu Val Gly Ile Cys Leu Ser						

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2965
 Thr Ser Gly Arg Trp Val Leu Asn Asn Glu His Tyr Arg Ala Leu Ser
 2980 2985 2990
 Gly Val Phe Cys Gly Val Asp Ala Met Asn Leu Ile Ala Asn Ile Phe
 2995 3000 3005
 Thr Pro Leu Val Gln Pro Val Gly Ala Leu Asp Val Ser Ala Ser Val
 3010 3015 3020
 Val Ala Gly Gly Ile Ile Ala Ile Leu Val Thr Cys Ala Ala Tyr Tyr
 3025 3030 3035 3040
 Phe Met Lys Phe Arg Arg Val Phe Gly Glu Tyr Asn His Val Val Ala
 3045 3050 3055
 Ala Asn Ala Leu Leu Phe Leu Met Ser Phe Thr Ile Leu Cys Leu Val
 3060 3065 3070
 Pro Ala Tyr Ser Phe Leu Pro Gly Val Tyr Ser Val Phe Tyr Leu Tyr
 3075 3080 3085
 Leu Thr Phe Tyr Phe Thr Asn Asp Val Ser Phe Leu Ala His Leu Gln
 3090 3095 3100
 Trp Phe Ala Met Phe Ser Pro Ile Val Pro Phe Trp Ile Thr Ala Ile
 3105 3110 3115 3120
 Tyr Val Phe Cys Ile Ser Leu Lys His Cys His Trp Phe Phe Asn Asn
 3125 3130 3135
 Tyr Leu Arg Lys Arg Val Met Phe Asn Gly Val Thr Phe Ser Thr Phe
 3140 3145 3150
 Glu Glu Ala Ala Leu Cys Thr Phe Leu Leu Asn Lys Glu Met Tyr Leu
 3155 3160 3165
 Lys Leu Arg Ser Glu Thr Leu Leu Pro Leu Thr Gln Tyr Asn Arg Tyr
 3170 3175 3180
 Leu Ala Leu Tyr Asn Lys Tyr Lys Tyr Phe Ser Gly Ala Leu Asp Thr
 3185 3190 3195 3200
 Thr Ser Tyr Arg Glu Ala Ala Cys Cys His Leu Ala Lys Ala Leu Asn
 3205 3210 3215
 Asp Phe Ser Asn Ser Gly Ala Asp Val Leu Tyr Gln Pro Pro Gln Thr
 3220 3225 3230
 Ser Ile Thr Ser Ala Val Leu Gln Ser Gly Phe Arg Lys Met Ala Phe
 3235 3240 3245
 Pro Ser Gly Lys Val Glu Gly Cys Met Val Gln Val Thr Cys Gly Thr
 3250 3255 3260
 Thr Thr Leu Asn Gly Leu Trp Leu Asp Asp Thr Val Tyr Cys Pro Arg
 3265 3270 3275 3280
 His Val Ile Cys Thr Ala Glu Asp Met Leu Asn Pro Asn Tyr Glu Asp
 3285 3290 3295
 Leu Leu Ile Arg Lys Ser Asn His Ser Phe Leu Val Gln Ala Gly Asn

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3300 3305 3310
 Val Gln Leu Arg Val Ile Gly His Ser Met Gln Asn Cys Leu Leu Arg
 3315 3320 3325
 Leu Lys Val Asp Thr Ser Asn Pro Lys Thr Pro Lys Tyr Lys Phe Val
 3330 3335 3340
 Arg Ile Gln Pro Gly Gln Thr Phe Ser Val Leu Ala Cys Tyr Asn Gly
 3345 3350 3355 3360
 Ser Pro Ser Gly Val Tyr Gln Cys Ala Met Arg Pro Asn His Thr Ile
 3365 3370 3375
 Lys Gly Ser Phe Leu Asn Gly Ser Cys Gly Ser Val Gly Phe Asn Ile
 3380 3385 3390
 Asp Tyr Asp Cys Val Ser Phe Cys Tyr Met His His Met Glu Leu Pro
 3395 3400 3405
 Thr Gly Val His Ala Gly Thr Asp Leu Glu Gly Lys Phe Tyr Gly Pro
 3410 3415 3420
 Phe Val Asp Arg Gln Thr Ala Gln Ala Ala Gly Thr Asp Thr Thr Ile
 3425 3430 3435 3440
 Thr Leu Asn Val Leu Ala Trp Leu Tyr Ala Ala Val Ile Asn Gly Asp
 3445 3450 3455
 Arg Trp Phe Leu Asn Arg Phe Thr Thr Thr Leu Asn Asp Phe Asn Leu
 3460 3465 3470
 Val Ala Met Lys Tyr Asn Tyr Glu Pro Leu Thr Gln Asp His Val Asp
 3475 3480 3485
 Ile Leu Gly Pro Leu Ser Ala Gln Thr Gly Ile Ala Val Leu Asp Met
 3490 3495 3500
 Cys Ala Ala Leu Lys Glu Leu Leu Gln Asn Gly Met Asn Gly Arg Thr
 3505 3510 3515 3520
 Ile Leu Gly Ser Thr Ile Leu Glu Asp Glu Phe Thr Pro Phe Asp Val
 3525 3530 3535
 Val Arg Gln Cys Ser Gly Val Thr Phe Gln Gly Lys Phe Lys Lys Ile
 3540 3545 3550
 Val Lys Gly Thr His His Trp Met Leu Leu Thr Phe Leu Thr Ser Leu
 3555 3560 3565
 Leu Ile Leu Val Gln Ser Thr Gln Trp Ser Leu Phe Phe Phe Val Tyr
 3570 3575 3580
 Glu Asn Ala Phe Leu Pro Phe Thr Leu Gly Ile Met Ala Ile Ala Ala
 3585 3590 3595 3600
 Cys Ala Met Leu Leu Val Lys His Lys His Ala Phe Leu Cys Leu Phe
 3605 3610 3615
 Leu Leu Pro Ser Leu Ala Thr Val Ala Tyr Phe Asn Met Val Tyr Met
 3620 3625 3630
 Pro Ala Ser Trp Val Met Arg Ile Met Thr Trp Leu Glu Leu Ala Asp

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3635 3640 3645
 Thr Ser Leu Ser Gly Tyr Arg Leu Lys Asp Cys Val Met Tyr Ala Ser
 3650 3655 3660
 Ala Leu Val Leu Leu Ile Leu Met Thr Ala Arg Thr Val Tyr Asp Asp
 3665 3670 3675 3680
 Ala Ala Arg Arg Val Trp Thr Leu Met Asn Val Ile Thr Leu Val Tyr
 3685 3690 3695
 Lys Val Tyr Tyr Gly Asn Ala Leu Asp Gln Ala Ile Ser Met Trp Ala
 3700 3705 3710
 Leu Val Ile Ser Val Thr Ser Asn Tyr Ser Gly Val Val Thr Thr Ile
 3715 3720 3725
 Met Phe Leu Ala Arg Ala Ile Val Phe Val Cys Val Glu Tyr Tyr Pro
 3730 3735 3740
 Leu Leu Phe Ile Thr Gly Asn Thr Leu Gln Cys Ile Met Leu Val Tyr
 3745 3750 3755 3760
 Cys Phe Leu Gly Tyr Cys Cys Cys Cys Tyr Phe Gly Leu Phe Cys Leu
 3765 3770 3775
 Leu Asn Arg Tyr Phe Arg Leu Thr Leu Gly Val Tyr Asp Tyr Leu Val
 3780 3785 3790
 Ser Thr Gln Glu Phe Arg Tyr Met Asn Ser Gln Gly Leu Leu Pro Pro
 3795 3800 3805
 Lys Ser Ser Ile Asp Ala Phe Lys Leu Asn Ile Lys Leu Leu Gly Ile
 3810 3815 3820
 Gly Gly Lys Pro Cys Ile Lys Val Ala Thr Val Gln Ser Lys Met Ser
 3825 3830 3835 3840
 Asp Val Lys Cys Thr Ser Val Val Leu Leu Ser Val Leu Gln Gln Leu
 3845 3850 3855
 Arg Val Glu Ser Ser Ser Lys Leu Trp Ala Gln Cys Val Gln Leu His
 3860 3865 3870
 Asn Asp Ile Leu Leu Ala Lys Asp Thr Thr Glu Ala Phe Glu Lys Met
 3875 3880 3885
 Val Ser Leu Leu Ser Val Leu Leu Ser Met Gln Gly Ala Val Asp Ile
 3890 3895 3900
 Asn Arg Leu Cys Glu Glu Met Leu Asp Asn Arg Ala Thr Leu Gln Ala
 3905 3910 3915 3920
 Ile Ala Ser Glu Phe Ser Ser Leu Pro Ser Tyr Ala Ala Tyr Ala Thr
 3925 3930 3935
 Ala Gln Glu Ala Tyr Glu Gln Ala Val Ala Asn Gly Asp Ser Glu Val
 3940 3945 3950
 Val Leu Lys Lys Leu Lys Lys Ser Leu Asn Val Ala Lys Ser Glu Phe
 3955 3960 3965
 Asp Arg Asp Ala Ala Met Gln Arg Lys Leu Glu Lys Met Ala Asp Gln

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3970 3975 3980
 Ala Met Thr Gln Met Tyr Lys Gln Ala Arg Ser Glu Asp Lys Arg Ala
 3985 3990 3995 4000
 Lys Val Thr Ser Ala Met Gln Thr Met Leu Phe Thr Met Leu Arg Lys
 4005 4010 4015
 Leu Asp Asn Asp Ala Leu Asn Asn Ile Ile Asn Asn Ala Arg Asp Gly
 4020 4025 4030
 Cys Val Pro Leu Asn Ile Ile Pro Leu Thr Thr Ala Ala Lys Leu Met
 4035 4040 4045
 Val Val Val Pro Asp Tyr Gly Thr Tyr Lys Asn Thr Cys Asp Gly Asn
 4050 4055 4060
 Thr Phe Thr Tyr Ala Ser Ala Leu Trp Glu Ile Gln Gln Val Val Asp
 4065 4070 4075 4080
 Ala Asp Ser Lys Ile Val Gln Leu Ser Glu Ile Asn Met Asp Asn Ser
 4085 4090 4095
 Pro Asn Leu Ala Trp Pro Leu Ile Val Thr Ala Leu Arg Ala Asn Ser
 4100 4105 4110
 Ala Val Lys Leu Gln Asn Asn Glu Leu Ser Pro Val Ala Leu Arg Gln
 4115 4120 4125
 Met Ser Cys Ala Ala Gly Thr Thr Gln Thr Ala Cys Thr Asp Asp Asn
 4130 4135 4140
 Ala Leu Ala Tyr Tyr Asn Asn Ser Lys Gly Gly Arg Phe Val Leu Ala
 4145 4150 4155 4160
 Leu Leu Ser Asp His Gln Asp Leu Lys Trp Ala Arg Phe Pro Lys Ser
 4165 4170 4175
 Asp Gly Thr Gly Thr Ile Tyr Thr Glu Leu Glu Pro Pro Cys Arg Phe
 4180 4185 4190
 Val Thr Asp Thr Pro Lys Gly Pro Lys Val Lys Tyr Leu Tyr Phe Ile
 4195 4200 4205
 Lys Gly Leu Asn Asn Leu Asn Arg Gly Met Val Leu Gly Ser Leu Ala
 4210 4215 4220
 Ala Thr Val Arg Leu Gln Ala Gly Asn Ala Thr Glu Val Pro Ala Asn
 4225 4230 4235 4240
 Ser Thr Val Leu Ser Phe Cys Ala Phe Ala Val Asp Pro Ala Lys Ala
 4245 4250 4255
 Tyr Lys Asp Tyr Leu Ala Ser Gly Gly Gln Pro Ile Thr Asn Cys Val
 4260 4265 4270
 Lys Met Leu Cys Thr His Thr Gly Thr Gly Gln Ala Ile Thr Val Thr
 4275 4280 4285
 Pro Glu Ala Asn Met Asp Gln Glu Ser Phe Gly Gly Ala Ser Cys Cys
 4290 4295 4300
 Leu Tyr Cys Arg Cys His Ile Asp His Pro Asn Pro Lys Gly Phe Cys

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4305 4310 4315 4320
 Asp Leu Lys Gly Lys Tyr Val Gln Ile Pro Thr Thr Cys Ala Asn Asp
 4325 4330 4335
 Pro Val Gly Phe Thr Leu Arg Asn Thr Val Cys Thr Val Cys Gly Met
 4340 4345 4350
 Trp Lys Gly Tyr Gly Cys Ser Cys Asp Gln Leu Arg Glu Pro Leu Met
 4355 4360 4365
 Gln Ser Ala Asp Ala Ser Thr Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly
 4370 4375 4380
 Val Ser Ala Ala Arg Leu Thr Pro Cys Gly Thr Gly Thr Ser Thr Asp
 4385 4390 4395 4400
 Val Val Tyr Arg Ala Phe Asp Ile Tyr Asn Glu Lys Val Ala Gly Phe
 4405 4410 4415
 Ala Lys Phe Leu Lys Thr Asn Cys Cys Arg Phe Gln Glu Lys Asp Glu
 4420 4425 4430
 Glu Gly Asn Leu Leu Asp Ser Tyr Phe Val Val Lys Arg His Thr Met
 4435 4440 4445
 Ser Asn Tyr Gln His Glu Glu Thr Ile Tyr Asn Leu Val Lys Asp Cys
 4450 4455 4460
 Pro Ala Val Ala Val His Asp Phe Phe Lys Phe Arg Val Asp Gly Asp
 4465 4470 4475 4480
 Met Val Pro His Ile Ser Arg Gln Arg Leu Thr Lys Tyr Thr Met Ala
 4485 4490 4495
 Asp Leu Val Tyr Ala Leu Arg His Phe Asp Glu Gly Asn Cys Asp Thr
 4500 4505 4510
 Leu Lys Glu Ile Leu Val Thr Tyr Asn Cys Cys Asp Asp Asp Tyr Phe
 4515 4520 4525
 Asn Lys Lys Asp Trp Tyr Asp Phe Val Glu Asn Pro Asp Ile Leu Arg
 4530 4535 4540
 Val Tyr Ala Asn Leu Gly Glu Arg Val Arg Gln Ser Leu Leu Lys Thr
 4545 4550 4555 4560
 Val Gln Phe Cys Asp Ala Met Arg Asp Ala Gly Ile Val Gly Val Leu
 4565 4570 4575
 Thr Leu Asp Asn Gln Asp Leu Asn Gly Asn Trp Tyr Asp Phe Gly Asp
 4580 4585 4590
 Phe Val Gln Val Ala Pro Gly Cys Gly Val Pro Ile Val Asp Ser Tyr
 4595 4600 4605
 Tyr Ser Leu Leu Met Pro Ile Leu Thr Leu Thr Arg Ala Leu Ala Ala
 4610 4615 4620
 Glu Ser His Met Asp Ala Asp Leu Ala Lys Pro Leu Ile Lys Trp Asp
 4625 4630 4635 4640
 Leu Leu Lys Tyr Asp Phe Thr Glu Glu Arg Leu Cys Leu Phe Asp Arg

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4645
 Tyr Phe Lys Tyr Trp Asp Gln Thr Tyr His Pro Asn Cys Ile Asn Cys
 4660 4665 4670
 Leu Asp Asp Arg Cys Ile Leu His Cys Ala Asn Phe Asn Val Leu Phe
 4675 4680 4685
 Ser Thr Val Phe Pro Pro Thr Ser Phe Gly Pro Leu Val Arg Lys Ile
 4690 4695 4700
 Phe Val Asp Gly Val Pro Phe Val Val Ser Thr Gly Tyr His Phe Arg
 4705 4710 4715 4720
 Glu Leu Gly Val Val His Asn Gln Asp Val Asn Leu His Ser Ser Arg
 4725 4730 4735
 Leu Ser Phe Lys Glu Leu Leu Val Tyr Ala Ala Asp Pro Ala Met His
 4740 4745 4750
 Ala Ala Ser Gly Asn Leu Leu Leu Asp Lys Arg Thr Thr Cys Phe Ser
 4755 4760 4765
 Val Ala Ala Leu Thr Asn Asn Val Ala Phe Gln Thr Val Lys Pro Gly
 4770 4775 4780
 Asn Phe Asn Lys Asp Phe Tyr Asp Phe Ala Val Ser Lys Gly Phe Phe
 4785 4790 4795 4800
 Lys Glu Gly Ser Ser Val Glu Leu Lys His Phe Phe Phe Ala Gln Asp
 4805 4810 4815
 Gly Asn Ala Ala Ile Ser Asp Tyr Asp Tyr Tyr Arg Tyr Asn Leu Pro
 4820 4825 4830
 Thr Met Cys Asp Ile Arg Gln Leu Leu Phe Val Val Glu Val Val Asp
 4835 4840 4845
 Lys Tyr Phe Asp Cys Tyr Asp Gly Gly Cys Ile Asn Ala Asn Gln Val
 4850 4855 4860
 Ile Val Asn Asn Leu Asp Lys Ser Ala Gly Phe Pro Phe Asn Lys Trp
 4865 4870 4875 4880
 Gly Lys Ala Arg Leu Tyr Tyr Asp Ser Met Ser Tyr Glu Asp Gln Asp
 4885 4890 4895
 Ala Leu Phe Ala Tyr Thr Lys Arg Asn Val Ile Pro Thr Ile Thr Gln
 4900 4905 4910
 Met Asn Leu Lys Tyr Ala Ile Ser Ala Lys Asn Arg Ala Arg Thr Val
 4915 4920 4925
 Ala Gly Val Ser Ile Cys Ser Thr Met Thr Asn Arg Gln Phe His Gln
 4930 4935 4940
 Lys Leu Leu Lys Ser Ile Ala Ala Thr Arg Gly Ala Thr Val Val Ile
 4945 4950 4955 4960
 Gly Thr Ser Lys Phe Tyr Gly Gly Trp His Asn Met Leu Lys Thr Val
 4965 4970 4975
 Tyr Ser Asp Val Glu Thr Pro His Leu Met Gly Trp Asp Tyr Pro Lys

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4980 4985 4990
 Cys Asp Arg Ala Met Pro Asn Met Leu Arg Ile Met Ala Ser Leu Val
 4995 5000 5005
 Leu Ala Arg Lys His Asn Thr Cys Cys Asn Leu Ser His Arg Phe Tyr
 5010 5015 5020
 Arg Leu Ala Asn Glu Cys Ala Gln Val Leu Ser Glu Met Val Met Cys
 5025 5030 5035 5040
 Gly Gly Ser Leu Tyr Val Lys Pro Gly Gly Thr Ser Ser Gly Asp Ala
 5045 5050 5055
 Thr Thr Ala Tyr Ala Asn Ser Val Phe Asn Ile Cys Gln Ala Val Thr
 5060 5065 5070
 Ala Asn Val Asn Ala Leu Leu Ser Thr Asp Gly Asn Lys Ile Ala Asp
 5075 5080 5085
 Lys Tyr Val Arg Asn Leu Gln His Arg Leu Tyr Glu Cys Leu Tyr Arg
 5090 5095 5100
 Asn Arg Asp Val Asp His Glu Phe Val Asp Glu Phe Tyr Ala Tyr Leu
 5105 5110 5115 5120
 Arg Lys His Phe Ser Met Met Ile Leu Ser Asp Asp Ala Val Val Cys
 5125 5130 5135
 Tyr Asn Ser Asn Tyr Ala Ala Gln Gly Leu Val Ala Ser Ile Lys Asn
 5140 5145 5150
 Phe Lys Ala Val Leu Tyr Tyr Gln Asn Asn Val Phe Met Ser Glu Ala
 5155 5160 5165
 Lys Cys Trp Thr Glu Thr Asp Leu Thr Lys Gly Pro His Glu Phe Cys
 5170 5175 5180
 Ser Gln His Thr Met Leu Val Lys Gln Gly Asp Asp Tyr Val Tyr Leu
 5185 5190 5195 5200
 Pro Tyr Pro Asp Pro Ser Arg Ile Leu Gly Ala Gly Cys Phe Val Asp
 5205 5210 5215
 Asp Ile Val Lys Thr Asp Gly Thr Leu Met Ile Glu Arg Phe Val Ser
 5220 5225 5230
 Leu Ala Ile Asp Ala Tyr Pro Leu Thr Lys His Pro Asn Gln Glu Tyr
 5235 5240 5245
 Ala Asp Val Phe His Leu Tyr Leu Gln Tyr Ile Arg Lys Leu His Asp
 5250 5255 5260
 Glu Leu Thr Gly His Met Leu Asp Met Tyr Ser Val Met Leu Thr Asn
 5265 5270 5275 5280
 Asp Asn Thr Ser Arg Tyr Trp Glu Pro Glu Phe Tyr Glu Ala Met Tyr
 5285 5290 5295
 Thr Pro His Thr Val Leu Gln Ala Val Gly Ala Cys Val Leu Cys Asn
 5300 5305 5310
 Ser Gln Thr Ser Leu Arg Cys Gly Ala Cys Ile Arg Arg Pro Phe Leu

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5315 5320 5325
 Cys Cys Lys Cys Cys Tyr Asp His Val Ile Ser Thr Ser His Lys Leu
 5330 5335 5340
 Val Leu Ser Val Asn Pro Tyr Val Cys Asn Ala Pro Gly Cys Asp Val
 5345 5350 5355 5360
 Thr Asp Val Thr Gln Leu Tyr Leu Gly Gly Met Ser Tyr Tyr Cys Lys
 5365 5370 5375
 Ser His Lys Pro Pro Ile Ser Phe Pro Leu Cys Ala Asn Gly Gln Val
 5380 5385 5390
 Phe Gly Leu Tyr Lys Asn Thr Cys Val Gly Ser Asp Asn Val Thr Asp
 5395 5400 5405
 Phe Asn Ala Ile Ala Thr Cys Asp Trp Thr Asn Ala Gly Asp Tyr Ile
 5410 5415 5420
 Leu Ala Asn Thr Cys Thr Glu Arg Leu Lys Leu Phe Ala Ala Glu Thr
 5425 5430 5435 5440
 Leu Lys Ala Thr Glu Glu Thr Phe Lys Leu Ser Tyr Gly Ile Ala Thr
 5445 5450 5455
 Val Arg Glu Val Leu Ser Asp Arg Glu Leu His Leu Ser Trp Glu Val
 5460 5465 5470
 Gly Lys Pro Arg Pro Pro Leu Asn Arg Asn Tyr Val Phe Thr Gly Tyr
 5475 5480 5485
 Arg Val Thr Lys Asn Ser Lys Val Gln Ile Gly Glu Tyr Thr Phe Glu
 5490 5495 5500
 Lys Gly Asp Tyr Gly Asp Ala Val Val Tyr Arg Gly Thr Thr Thr Tyr
 5505 5510 5515 5520
 Lys Leu Asn Val Gly Asp Tyr Phe Val Leu Thr Ser His Thr Val Met
 5525 5530 5535
 Pro Leu Ser Ala Pro Thr Leu Val Pro Gln Glu His Tyr Val Arg Ile
 5540 5545 5550
 Thr Gly Leu Tyr Pro Thr Leu Asn Ile Ser Asp Glu Phe Ser Ser Asn
 5555 5560 5565
 Val Ala Asn Tyr Gln Lys Val Gly Met Gln Lys Tyr Ser Thr Leu Gln
 5570 5575 5580
 Gly Pro Pro Gly Thr Gly Lys Ser His Phe Ala Ile Gly Leu Ala Leu
 5585 5590 5595 5600
 Tyr Tyr Pro Ser Ala Arg Ile Val Tyr Thr Ala Cys Ser His Ala Ala
 5605 5610 5615
 Val Asp Ala Leu Cys Glu Lys Ala Leu Lys Tyr Leu Pro Ile Asp Lys
 5620 5625 5630
 Cys Ser Arg Ile Ile Pro Ala Arg Ala Arg Val Glu Cys Phe Asp Lys
 5635 5640 5645
 Phe Lys Val Asn Ser Thr Leu Glu Gln Tyr Val Phe Cys Thr Val Asn

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5650 5655 5660
 Ala Leu Pro Glu Thr Thr Ala Asp Ile Val Val Phe Asp Glu Ile Ser
 5665 5670 5675 5680
 Met Ala Thr Asn Tyr Asp Leu Ser Val Val Asn Ala Arg Leu Arg Ala
 5685 5690 5695
 Lys His Tyr Val Tyr Ile Gly Asp Pro Ala Gln Leu Pro Ala Pro Arg
 5700 5705 5710
 Thr Leu Leu Thr Lys Gly Thr Leu Glu Pro Glu Tyr Phe Asn Ser Val
 5715 5720 5725
 Cys Arg Leu Met Lys Thr Ile Gly Pro Asp Met Phe Leu Gly Thr Cys
 5730 5735 5740
 Arg Arg Cys Pro Ala Glu Ile Val Asp Thr Val Ser Ala Leu Val Tyr
 5745 5750 5755 5760
 Asp Asn Lys Leu Lys Ala His Lys Asp Lys Ser Ala Gln Cys Phe Lys
 5765 5770 5775
 Met Phe Tyr Lys Gly Val Ile Thr His Asp Val Ser Ser Ala Ile Asn
 5780 5785 5790
 Arg Pro Gln Ile Gly Val Val Arg Glu Phe Leu Thr Arg Asn Pro Ala
 5795 5800 5805
 Trp Arg Lys Ala Val Phe Ile Ser Pro Tyr Asn Ser Gln Asn Ala Val
 5810 5815 5820
 Ala Ser Lys Ile Leu Gly Leu Pro Thr Gln Thr Val Asp Ser Ser Gln
 5825 5830 5835 5840
 Gly Ser Glu Tyr Asp Tyr Val Ile Phe Thr Gln Thr Thr Glu Thr Ala
 5845 5850 5855
 His Ser Cys Asn Val Asn Arg Phe Asn Val Ala Ile Thr Arg Ala Lys
 5860 5865 5870
 Ile Gly Ile Leu Cys Ile Met Ser Asp Arg Asp Leu Tyr Asp Lys Leu
 5875 5880 5885
 Gln Phe Thr Ser Leu Glu Ile Pro Arg Arg Asn Val Ala Thr Leu Gln
 5890 5895 5900
 Ala Glu Asn Val Thr Gly Leu Phe Lys Asp Cys Ser Lys Ile Ile Thr
 5905 5910 5915 5920
 Gly Leu His Pro Thr Gln Ala Pro Thr His Leu Ser Val Asp Ile Lys
 5925 5930 5935
 Phe Lys Thr Glu Gly Leu Cys Val Asp Ile Pro Gly Ile Pro Lys Asp
 5940 5945 5950
 Met Thr Tyr Arg Arg Leu Ile Ser Met Met Gly Phe Lys Met Asn Tyr
 5955 5960 5965
 Gln Val Asn Gly Tyr Pro Asn Met Phe Ile Thr Arg Glu Glu Ala Ile
 5970 5975 5980
 Arg His Val Arg Ala Trp Ile Gly Phe Asp Val Glu Gly Cys His Ala

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5985 5990 5995 6000

Thr Arg Asp Ala Val Gly Thr Asn Leu Pro Leu Gln Leu Gly Phe Ser
6005 6010 6015

Thr Gly Val Asn Leu Val Ala Val Pro Thr Gly Tyr Val Asp Thr Glu
6020 6025 6030

Asn Asn Thr Glu Phe Thr Arg Val Asn Ala Lys Pro Pro Pro Gly Asp
6035 6040 6045

Gln Phe Lys His Leu Ile Pro Leu Met Tyr Lys Gly Leu Pro Trp Asn
6050 6055 6060

Val Val Arg Ile Lys Ile Val Gln Met Leu Ser Asp Thr Leu Lys Gly
6065 6070 6075 6080

Leu Ser Asp Arg Val Val Phe Val Leu Trp Ala His Gly Phe Glu Leu
6085 6090 6095

Thr Ser Met Lys Tyr Phe Val Lys Ile Gly Pro Glu Arg Thr Cys Cys
6100 6105 6110

Leu Cys Asp Lys Arg Ala Thr Cys Phe Ser Thr Ser Ser Asp Thr Tyr
6115 6120 6125

Ala Cys Trp Asn His Ser Val Gly Phe Asp Tyr Val Tyr Asn Pro Phe
6130 6135 6140

Met Ile Asp Val Gln Gln Trp Gly Phe Thr Gly Asn Leu Gln Ser Asn
6145 6150 6155 6160

His Asp Gln His Cys Gln Val His Gly Asn Ala His Val Ala Ser Cys
6165 6170 6175

Asp Ala Ile Met Thr Arg Cys Leu Ala Val His Glu Cys Phe Val Lys
6180 6185 6190

Arg Val Asp Trp Ser Val Glu Tyr Pro Ile Ile Gly Asp Glu Leu Arg
6195 6200 6205

Val Asn Ser Ala Cys Arg Lys Val Gln His Met Val Val Lys Ser Ala
6210 6215 6220

Leu Leu Ala Asp Lys Phe Pro Val Leu His Asp Ile Gly Asn Pro Lys
6225 6230 6235 6240

Ala Ile Lys Cys Val Pro Gln Ala Glu Val Glu Trp Lys Phe Tyr Asp
6245 6250 6255

Ala Gln Pro Cys Ser Asp Lys Ala Tyr Lys Ile Glu Glu Leu Phe Tyr
6260 6265 6270

Ser Tyr Ala Thr His His Asp Lys Phe Thr Asp Gly Val Cys Leu Phe
6275 6280 6285

Trp Asn Cys Asn Val Asp Arg Tyr Pro Ala Asn Ala Ile Val Cys Arg
6290 6295 6300

Phe Asp Thr Arg Val Leu Ser Asn Leu Asn Leu Pro Gly Cys Asp Gly
6305 6310 6315 6320

Gly Ser Leu Tyr Val Asn Lys His Ala Phe His Thr Pro Ala Phe Asp

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6325

6330

6335

Lys Ser Ala Phe Thr Asn Leu Lys Gln Leu Pro Phe Phe Tyr Tyr Ser
6340 6345 6350
Asp Ser Pro Cys Glu Ser His Gly Lys Gln Val Val Ser Asp Ile Asp
6355 6360 6365
Tyr Val Pro Leu Lys Ser Ala Thr Cys Ile Thr Arg Cys Asn Leu Gly
6370 6375 6380
Gly Ala Val Cys Arg His His Ala Asn Glu Tyr Arg Gln Tyr Leu Asp
6385 6390 6395 6400
Ala Tyr Asn Met Met Ile Ser Ala Gly Phe Ser Leu Trp Ile Tyr Lys
6405 6410 6415
Gln Phe Asp Thr Tyr Asn Leu Trp Asn Thr Phe Thr Arg Leu Gln Ser
6420 6425 6430
Leu Glu Asn Val Ala Tyr Asn Val Val Asn Lys Gly His Phe Asp Gly
6435 6440 6445
His Ala Gly Glu Ala Pro Val Ser Ile Ile Asn Asn Ala Val Tyr Thr
6450 6455 6460
Lys Val Asp Gly Ile Asp Val Glu Ile Phe Glu Asn Lys Thr Thr Leu
6465 6470 6475 6480
Pro Val Asn Val Ala Phe Glu Leu Trp Ala Lys Arg Asn Ile Lys Pro
6485 6490 6495
Val Pro Glu Ile Lys Ile Leu Asn Asn Leu Gly Val Asp Ile Ala Ala
6500 6505 6510
Asn Thr Val Ile Trp Asp Tyr Lys Arg Glu Ala Pro Ala His Val Ser
6515 6520 6525
Thr Ile Gly Val Cys Thr Met Thr Asp Ile Ala Lys Lys Pro Thr Glu
6530 6535 6540
Ser Ala Cys Ser Ser Leu Thr Val Leu Phe Asp Gly Arg Val Glu Gly
6545 6550 6555 6560
Gln Val Asp Leu Phe Arg Asn Ala Arg Asn Gly Val Leu Ile Thr Glu
6565 6570 6575
Gly Ser Val Lys Gly Leu Thr Pro Ser Lys Gly Pro Ala Gln Ala Ser
6580 6585 6590
Val Asn Gly Val Thr Leu Ile Gly Glu Ser Val Lys Thr Gln Phe Asn
6595 6600 6605
Tyr Phe Lys Lys Val Asp Gly Ile Ile Gln Gln Leu Pro Glu Thr Tyr
6610 6615 6620
Phe Thr Gln Ser Arg Asp Leu Glu Asp Phe Lys Pro Arg Ser Gln Met
6625 6630 6635 6640
Glu Thr Asp Phe Leu Glu Leu Ala Met Asp Glu Phe Ile Gln Arg Tyr
6645 6650 6655
Lys Leu Glu Gly Tyr Ala Phe Glu His Ile Val Tyr Gly Asp Phe Ser

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6660 6665 6670
 His Gly Gln Leu Gly Gly Leu His Leu Met Ile Gly Leu Ala Lys Arg
 6675 6680 6685
 Ser Gln Asp Ser Pro Leu Lys Leu Glu Asp Phe Ile Pro Met Asp Ser
 6690 6695 6700
 Thr Val Lys Asn Tyr Phe Ile Thr Asp Ala Gln Thr Gly Ser Ser Lys
 6705 6710 6715 6720
 Cys val Cys Ser Val Ile Asp Leu Leu Leu Asp Asp Phe Val Glu Ile
 6725 6730 6735
 Ile Lys Ser Gln Asp Leu Ser Val Ile Ser Lys Val Val Lys Val Thr
 6740 6745 6750
 Ile Asp Tyr Ala Glu Ile Ser Phe Met Leu Trp Cys Lys Asp Gly His
 6755 6760 6765
 Val Glu Thr Phe Tyr Pro Lys Leu Gln Ala Ser Arg Ala Trp Gln Pro
 6770 6775 6780
 Gly Val Ala Met Pro Asn Leu Tyr Lys Met Gln Arg Met Leu Leu Glu
 6785 6790 6795 6800
 Lys Cys Asp Leu Gln Asn Tyr Gly Glu Asn Ala Val Ile Pro Lys Gly
 6805 6810 6815
 Ile Met Met Asn Val Ala Lys Tyr Thr Gln Leu Cys Gln Tyr Leu Asn
 6820 6825 6830
 Thr Leu Thr Leu Ala Val Pro Tyr Asn Met Arg Val Ile His Phe Gly
 6835 6840 6845
 Ala Gly Ser Asp Lys Gly Val Ala Pro Gly Thr Ala Val Leu Arg Gln
 6850 6855 6860
 Trp Leu Pro Thr Gly Thr Leu Leu Val Asp Ser Asp Leu Asn Asp Phe
 6865 6870 6875 6880
 Val Ser Asp Ala Tyr Ser Thr Leu Ile Gly Asp Cys Ala Thr Val His
 6885 6890 6895
 Thr Ala Asn Lys Trp Asp Leu Ile Ile Ser Asp Met Tyr Asp Pro Arg
 6900 6905 6910
 Thr Lys His Val Thr Lys Glu Asn Asp Ser Lys Glu Gly Phe Phe Thr
 6915 6920 6925
 Tyr Leu Cys Gly Phe Ile Lys Gln Lys Leu Ala Leu Gly Gly Ser Ile
 6930 6935 6940
 Ala Val Lys Ile Thr Glu His Ser Trp Asn Ala Asp Leu Tyr Lys Leu
 6945 6950 6955 6960
 Met Gly His Phe Ser Trp Trp Thr Ala Phe Val Thr Asn Val Asn Ala
 6965 6970 6975
 Ser Ser Ser Glu Ala Phe Leu Ile Gly Ala Asn Tyr Leu Gly Lys Pro
 6980 6985 6990
 Lys Glu Gln Ile Asp Gly Tyr Thr Met His Ala Asn Tyr Ile Phe Trp

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6995

7000

7005

Arg Asn Thr Asn Pro Ile Gln Leu Ser Ser Tyr Ser Leu Phe Asp Met
 7010 7015 7020
 Ser Lys Phe Pro Leu Lys Leu Arg Gly Thr Ala Val Met Ser Leu Lys
 7025 7030 7035 7040
 Glu Asn Gln Ile Asn Asp Met Ile Tyr Ser Leu Leu Glu Lys Gly Arg
 7045 7050 7055
 Leu Ile Ile Arg Glu Asn Asn Arg Val Val Val Ser Ser Asp Ile Leu
 7060 7065 7070

Val Asn Asn
 7075

<210> 7243
 <211> 7076
 <212> PRT
 <213> SARS coronavirus
 <220>
 <221> misc_feature
 <222> 4376...4384
 <223> Xaa is any amino acid

<400> 7243
 Met Glu Ser Leu Val Leu Gly Val Asn Glu Lys Thr His Val Gln Leu
 1 5 10 15
 Ser Leu Pro Val Leu Gln Val Arg Asp Val Leu Val Arg Gly Phe Gly
 20 25 30
 Asp Ser Val Glu Glu Ala Leu Ser Glu Ala Arg Glu His Leu Lys Asn
 35 40 45
 Gly Thr Cys Gly Leu Val Glu Leu Glu Lys Gly Val Leu Pro Gln Leu
 50 55 60
 Glu Gln Pro Tyr Val Phe Ile Lys Arg Ser Asp Ala Leu Ser Thr Asn
 65 70 75 80
 His Gly His Lys Val Val Glu Leu Val Ala Glu Met Asp Gly Ile Gln
 85 90 95
 Tyr Gly Arg Ser Gly Ile Thr Leu Gly Val Leu Val Pro His Val Gly
 100 105 110
 Glu Thr Pro Ile Ala Tyr Arg Asn Val Leu Leu Arg Lys Asn Gly Asn
 115 120 125
 Lys Gly Ala Gly Gly His Ser Tyr Gly Ile Asp Leu Lys Ser Tyr Asp
 130 135 140
 Leu Gly Asp Glu Leu Gly Thr Asp Pro Ile Glu Asp Tyr Glu Gln Asn
 145 150 155 160
 Trp Asn Thr Lys His Gly Ser Gly Ala Leu Arg Glu Leu Thr Arg Glu
 165 170 175
 Leu Asn Gly Gly Ala Val Thr Arg Tyr Val Asp Asn Asn Phe Cys Gly
 180 185 190

SEQLIST-20480.TXT

Pro Asp Gly Tyr Pro Leu Asp Cys Ile Lys Asp Phe Leu Ala Arg Ala
 195 200 205
 Gly Lys Ser Met Cys Thr Leu Ser Glu Gln Leu Asp Tyr Ile Glu Ser
 210 215 220
 Lys Arg Gly Val Tyr Cys Cys Arg Asp His Glu His Glu Ile Ala Trp
 225 230 235 240
 Phe Thr Glu Arg Ser Asp Lys Ser Tyr Glu His Gln Thr Pro Phe Glu
 245 250 255
 Ile Lys Ser Ala Lys Lys Phe Asp Thr Phe Lys Gly Glu Cys Pro Lys
 260 265 270
 Phe Val Phe Pro Leu Asn Ser Lys Val Lys Val Ile Gln Pro Arg Val
 275 280 285
 Glu Lys Lys Lys Thr Glu Gly Phe Met Gly Arg Ile Arg Ser Val Tyr
 290 295 300
 Pro Val Ala Ser Pro Gln Glu Cys Asn Asn Met His Leu Ser Thr Leu
 305 310 315 320
 Met Lys Cys Asn His Cys Asp Glu Val Ser Trp Gln Thr Cys Asp Phe
 325 330 335
 Leu Lys Ala Thr Cys Glu His Cys Gly Thr Glu Asn Leu Val Ile Glu
 340 345 350
 Gly Pro Thr Thr Cys Gly Tyr Leu Pro Thr Asn Ala Val Val Lys Met
 355 360 365
 Pro Cys Pro Ala Cys Gln Asp Pro Glu Ile Gly Pro Glu His Ser Val
 370 375 380
 Ala Asp Tyr His Asn His Ser Asn Ile Glu Thr Arg Leu Arg Lys Gly
 385 390 395 400
 Gly Arg Thr Arg Cys Phe Gly Gly Cys Val Phe Ala Tyr Val Gly Cys
 405 410 415
 Tyr Asn Lys Arg Ala Tyr Trp Val Pro Arg Ala Ser Ala Asp Ile Gly
 420 425 430
 Ser Gly His Thr Gly Ile Thr Gly Asp Asn Val Glu Thr Leu Asn Glu
 435 440 445
 Asp Leu Leu Glu Ile Leu Ser Arg Glu Arg Val Asn Ile Asn Ile Val
 450 455 460
 Gly Asp Phe His Leu Asn Glu Glu Val Ala Ile Ile Leu Ala Ser Phe
 465 470 475 480
 Ser Ala Ser Thr Ser Ala Phe Ile Asp Thr Ile Lys Ser Leu Asp Tyr
 485 490 495
 Lys Ser Phe Lys Thr Ile Val Glu Ser Cys Gly Asn Tyr Lys Val Thr
 500 505 510
 Lys Gly Lys Pro Val Lys Gly Ala Trp Asn Ile Gly Gln Gln Arg Ser
 515 520 525

SEQLIST-20480.TXT

Val₅₃₀ Leu Thr Pro Leu Cys Gly₅₃₅ Phe Pro Ser Gln Ala₅₄₀ Ala Gly Val Ile
 Arg₅₄₅ Ser Ile Phe Ala Arg₅₅₀ Thr Leu Asp Ala₅₅₅ Asn His Ser Ile Pro₅₆₀
 Asp Leu Gln Arg Ala₅₆₅ Ala Val Thr Ile Leu₅₇₀ Asp Gly Ile Ser Glu₅₇₅ Gln
 Ser Leu Arg Leu₅₈₀ Val Asp Ala Met Val₅₈₅ Tyr Thr Ser Asp Leu₅₉₀ Leu Thr
 Asn Ser Val₅₉₅ Ile Ile Met Ala Tyr₆₀₀ Val Thr Gly Gly Leu₆₀₅ Val Gln Gln
 Thr Ser₆₁₀ Gln Trp Leu Ser Asn₆₁₅ Leu Leu Gly Thr Thr₆₂₀ Val Glu Lys Leu
 Arg₆₂₅ Pro Ile Phe Glu Trp₆₃₀ Ile Glu Ala Lys Leu₆₃₅ Ser Ala Gly Val Glu₆₄₀
 Phe Leu Lys Asp Ala₆₄₅ Trp Glu Ile Leu Lys₆₅₀ Phe Leu Ile Thr Gly₆₅₅ Val
 Phe Asp Ile Val₆₆₀ Lys Gly Gln Ile Gln₆₆₅ Val Ala Ser Asp Asn₆₇₀ Ile Lys
 Asp Cys Val₆₇₅ Lys Cys Phe Ile Asp₆₈₀ Val Val Asn Lys Ala₆₈₅ Leu Glu Met
 Cys Ile Asp Gln Val Thr Ile₆₉₅ Ala Gly Ala Lys Leu₇₀₀ Arg Ser Leu Asn
 Leu₇₀₅ Gly Glu Val Phe Ile₇₁₀ Ala Gln Ser Lys Gly₇₁₅ Leu Tyr Arg Gln Cys₇₂₀
 Ile Arg Gly Lys Glu₇₂₅ Gln Leu Gln Leu Leu₇₃₀ Met Pro Leu Lys Ala₇₃₅ Pro
 Lys Glu Val Thr₇₄₀ Phe Leu Glu Gly Asp₇₄₅ Ser His Asp Thr Val₇₅₀ Leu Thr
 Ser Glu Glu₇₅₅ Val Val Leu Lys Asn₇₆₀ Gly Glu Leu Glu Ala₇₆₅ Leu Glu Thr
 Pro Val₇₇₀ Asp Ser Phe Thr Asn₇₇₅ Gly Ala Ile Val Gly₇₈₀ Thr Pro Val Cys
 Val₇₈₅ Asn Gly Leu Met Leu₇₉₀ Leu Glu Ile Lys Asp₇₉₅ Lys Glu Gln Tyr Cys₈₀₀
 Ala Leu Ser Pro Gly₈₀₅ Leu Leu Ala Thr Asn₈₁₀ Asn Val Phe Arg Leu₈₁₅ Lys
 Gly Gly Ala Pro₈₂₀ Ile Lys Gly Val Thr₈₂₅ Phe Gly Glu Asp Thr₈₃₀ Val Trp
 Glu Val Gln Gly Tyr Lys Asn Val₈₄₀ Arg Ile Thr Phe Glu₈₄₅ Leu Asp Glu
 Arg Val₈₅₀ Asp Lys Val Leu Asn₈₅₅ Glu Lys Cys Ser Val₈₆₀ Tyr Thr Val Glu

SEQLIST-20480.TXT

Ser Gly Thr Glu Val Thr Glu Phe Ala Cys Val Val Ala Glu Ala Val
 865 870 875 880
 Val Lys Thr Leu Gln Pro Val Ser Asp Leu Leu Thr Asn Met Gly Ile
 885 890 895
 Asp Leu Asp Glu Trp Ser Val Ala Thr Phe Tyr Leu Phe Asp Asp Ala
 900 905 910
 Gly Glu Glu Asn Phe Ser Ser Arg Met Tyr Cys Ser Phe Tyr Pro Pro
 915 920 925
 Asp Glu Glu Glu Glu Asp Asp Ala Glu Cys Glu Glu Glu Glu Ile Asp
 930 935 940
 Glu Thr Cys Glu His Glu Tyr Gly Thr Glu Asp Asp Tyr Gln Gly Leu
 945 950 955 960
 Pro Leu Glu Phe Gly Ala Ser Ala Glu Thr Val Arg Val Glu Glu Glu
 965 970 975
 Glu Glu Glu Asp Trp Leu Asp Asp Thr Thr Glu Gln Ser Glu Ile Glu
 980 985 990
 Pro Glu Pro Glu Pro Thr Pro Glu Glu Pro Val Asn Gln Phe Thr Gly
 995 1000 1005
 Tyr Leu Lys Leu Thr Asp Asn Val Ala Ile Lys Cys Val Asp Ile Val
 1010 1015 1020
 Lys Glu Ala Gln Ser Ala Asn Pro Met Val Ile Val Asn Ala Ala Asn
 1025 1030 1035 1040
 Ile His Leu Lys His Gly Gly Gly Val Ala Gly Ala Leu Asn Lys Ala
 1045 1050 1055
 Thr Asn Gly Ala Met Gln Lys Glu Ser Asp Asp Tyr Ile Lys Leu Asn
 1060 1065 1070
 Gly Pro Leu Thr Val Gly Gly Ser Cys Leu Leu Ser Gly His Asn Leu
 1075 1080 1085
 Ala Lys Lys Cys Leu His Val Val Gly Pro Asn Leu Asn Ala Gly Glu
 1090 1095 1100
 Asp Ile Gln Leu Leu Lys Ala Ala Tyr Glu Asn Phe Asn Ser Gln Asp
 1105 1110 1115 1120
 Ile Leu Leu Ala Pro Leu Leu Ser Ala Gly Ile Phe Gly Ala Lys Pro
 1125 1130 1135
 Leu Gln Ser Leu Gln Val Cys Val Gln Thr Val Arg Thr Gln Val Tyr
 1140 1145 1150
 Ile Ala Val Asn Asp Lys Ala Leu Tyr Glu Gln Val Val Met Asp Tyr
 1155 1160 1165
 Leu Asp Asn Leu Lys Pro Arg Val Glu Ala Pro Lys Gln Glu Glu Pro
 1170 1175 1180
 Pro Asn Thr Glu Asp Ser Lys Thr Glu Glu Lys Ser Val Val Gln Lys
 1185 1190 1195 1200

SEQLIST-20480.TXT

Pro Val Asp Val Lys Pro Lys Ile Lys Ala Cys Ile Asp Glu Val Thr
1205 1210 1215

Thr Thr Leu Glu Glu Thr Lys Phe Leu Thr Asn Lys Leu Leu Leu Phe
1220 1225 1230

Ala Asp Ile Asn Gly Lys Leu Tyr His Asp Ser Gln Asn Met Leu Arg
1235 1240 1245

Gly Glu Asp Met Ser Phe Leu Glu Lys Asp Ala Pro Tyr Met Val Gly
1250 1255 1260

Asp Val Ile Thr Ser Gly Asp Ile Thr Cys Val Val Ile Pro Ser Lys
1265 1270 1275 1280

Lys Ala Gly Gly Thr Thr Glu Met Leu Ser Arg Ala Leu Lys Lys Val
1285 1290 1295

Pro Val Asp Glu Tyr Ile Thr Thr Tyr Pro Gly Gln Gly Cys Ala Gly
1300 1305 1310

Tyr Thr Leu Glu Glu Ala Lys Thr Ala Leu Lys Lys Cys Lys Ser Ala
1315 1320 1325

Phe Tyr Val Leu Pro Ser Glu Ala Pro Asn Ala Lys Glu Glu Ile Leu
1330 1335 1340

Gly Thr Val Ser Trp Asn Leu Arg Glu Met Leu Ala His Ala Glu Glu
1345 1350 1355 1360

Thr Arg Lys Leu Met Pro Ile Cys Met Asp Val Arg Ala Ile Met Ala
1365 1370 1375

Thr Ile Gln Arg Lys Tyr Lys Gly Ile Lys Ile Gln Glu Gly Ile Val
1380 1385 1390

Asp Tyr Gly Val Arg Phe Phe Phe Tyr Thr Ser Lys Glu Pro Val Ala
1395 1400 1405

Ser Ile Ile Thr Lys Leu Asn Ser Leu Asn Glu Pro Leu Val Thr Met
1410 1415 1420

Pro Ile Gly Tyr Val Thr His Gly Phe Asn Leu Glu Glu Ala Ala Arg
1425 1430 1435 1440

Cys Met Arg Ser Leu Lys Ala Pro Ala Val Val Ser Val Ser Ser Pro
1445 1450 1455

Asp Ala Val Thr Thr Tyr Asn Gly Tyr Leu Thr Ser Ser Ser Lys Thr
1460 1465 1470

Ser Glu Glu His Phe Val Glu Thr Val Ser Leu Ala Gly Ser Tyr Arg
1475 1480 1485

Asp Trp Ser Tyr Ser Gly Gln Arg Thr Glu Leu Gly Val Glu Phe Leu
1490 1495 1500

Lys Arg Gly Asp Lys Ile Val Tyr His Thr Leu Glu Ser Pro Val Glu
1505 1510 1515 1520

Phe His Leu Asp Gly Glu Val Leu Ser Leu Asp Lys Leu Lys Ser Leu
1525 1530 1535

SEQLIST-20480.TXT

Leu Ser Leu Arg Glu Val Lys Thr Ile Lys Val Phe Thr Thr Val Asp
 1540 1545 1550
 Asn Thr Asn Leu His Thr Gln Leu Val Asp Met Ser Met Thr Tyr Gly
 1555 1560 1565
 Gln Gln Phe Gly Pro Thr Tyr Leu Asp Gly Ala Asp Val Thr Lys Ile
 1570 1575 1580
 Lys Pro His Val Asn His Glu Gly Lys Thr Phe Phe Val Leu Pro Ser
 1585 1590 1595 1600
 Asp Asp Thr Leu Arg Ser Glu Ala Phe Glu Tyr Tyr His Thr Leu Asp
 1605 1610 1615
 Glu Ser Phe Leu Gly Arg Tyr Met Ser Ala Leu Asn His Thr Lys Lys
 1620 1625 1630
 Trp Lys Phe Pro Gln Val Gly Gly Leu Thr Ser Ile Lys Trp Ala Asp
 1635 1640 1645
 Asn Asn Cys Tyr Leu Ser Ser Val Leu Leu Ala Leu Gln Gln Leu Glu
 1650 1655 1660
 Val Lys Phe Asn Ala Pro Ala Leu Gln Glu Ala Tyr Tyr Arg Ala Arg
 1665 1670 1675 1680
 Ala Gly Asp Ala Ala Asn Phe Cys Ala Leu Ile Leu Ala Tyr Ser Asn
 1685 1690 1695
 Lys Thr Val Gly Glu Leu Gly Asp Val Arg Glu Thr Met Thr His Leu
 1700 1705 1710
 Leu Gln His Ala Asn Leu Glu Ser Ala Lys Arg Val Leu Asn Val Val
 1715 1720 1725
 Cys Lys His Cys Gly Gln Lys Thr Thr Thr Leu Thr Gly Val Glu Ala
 1730 1735 1740
 Val Met Tyr Met Gly Thr Leu Ser Tyr Asp Asn Leu Lys Thr Gly Val
 1745 1750 1755 1760
 Ser Ile Pro Cys Val Cys Gly Arg Asp Ala Thr Gln Tyr Leu Val Gln
 1765 1770 1775
 Gln Glu Ser Ser Phe Val Met Met Ser Ala Pro Pro Ala Glu Tyr Lys
 1780 1785 1790
 Leu Gln Gln Gly Thr Phe Leu Cys Ala Asn Glu Tyr Thr Gly Asn Tyr
 1795 1800 1805
 Gln Cys Gly His Tyr Thr His Ile Thr Ala Lys Glu Thr Leu Tyr Arg
 1810 1815 1820
 Ile Asp Gly Ala His Leu Thr Lys Met Ser Glu Tyr Lys Gly Pro Val
 1825 1830 1835 1840
 Thr Asp Val Phe Tyr Lys Glu Thr Ser Tyr Thr Thr Thr Ile Lys Pro
 1845 1850 1855
 Val Ser Tyr Lys Leu Asp Gly Val Thr Tyr Thr Glu Ile Glu Pro Lys
 1860 1865 1870

SEQLIST-20480.TXT

Leu Asp Gly Tyr Tyr Lys Lys Asp Asn Ala Tyr Tyr Thr Glu Gln Pro
 1875 1880 1885
 Ile Asp Leu Val Pro Thr Gln Pro Leu Pro Asn Ala Ser Phe Asp Asn
 1890 1895 1900
 Phe Lys Leu Thr Cys Ser Asn Thr Lys Phe Ala Asp Asp Leu Asn Gln
 1905 1910 1915 1920
 Met Thr Gly Phe Thr Lys Pro Ala Ser Arg Glu Leu Ser Val Thr Phe
 1925 1930 1935
 Phe Pro Asp Leu Asn Gly Asp Val Val Ala Ile Asp Tyr Arg His Tyr
 1940 1945 1950
 Ser Ala Ser Phe Lys Lys Gly Ala Lys Leu Leu His Lys Pro Ile Val
 1955 1960 1965
 Trp His Ile Asn Gln Ala Thr Thr Lys Thr Thr Phe Lys Pro Asn Thr
 1970 1975 1980
 Trp Cys Leu Arg Cys Leu Trp Ser Thr Lys Pro Val Asp Thr Ser Asn
 1985 1990 1995 2000
 Ser Phe Glu Val Leu Ala Val Glu Asp Thr Gln Gly Met Asp Asn Leu
 2005 2010 2015
 Ala Cys Glu Ser Gln Gln Pro Thr Ser Glu Glu Val Val Glu Asn Pro
 2020 2025 2030
 Thr Ile Gln Lys Glu Val Ile Glu Cys Asp Val Lys Thr Thr Glu Val
 2035 2040 2045
 Val Gly Asn Val Ile Leu Lys Pro Ser Asp Glu Gly Val Lys Val Thr
 2050 2055 2060
 Gln Glu Leu Gly His Glu Asp Leu Met Ala Ala Tyr Val Glu Asn Thr
 2065 2070 2075 2080
 Ser Ile Thr Ile Lys Lys Pro Asn Glu Leu Ser Leu Ala Leu Gly Leu
 2085 2090 2095
 Lys Thr Ile Ala Thr His Gly Ile Ala Ala Ile Asn Ser Val Pro Trp
 2100 2105 2110
 Ser Lys Ile Leu Ala Tyr Val Lys Pro Phe Leu Gly Gln Ala Ala Ile
 2115 2120 2125
 Thr Thr Ser Asn Cys Ala Lys Arg Leu Ala Gln Arg Val Phe Asn Asn
 2130 2135 2140
 Tyr Met Pro Tyr Val Phe Thr Leu Leu Phe Gln Leu Cys Thr Phe Thr
 2145 2150 2155 2160
 Lys Ser Thr Asn Ser Arg Ile Arg Ala Ser Leu Pro Thr Thr Ile Ala
 2165 2170 2175
 Lys Asn Ser Val Lys Ser Val Ala Lys Leu Cys Leu Asp Ala Gly Ile
 2180 2185 2190
 Asn Tyr Val Lys Ser Pro Lys Phe Ser Lys Leu Phe Thr Ile Ala Met
 2195 2200 2205

SEQLIST-20480.TXT

Trp Leu Leu Leu Leu Ser Ile Cys Leu Gly Ser Leu Ile Cys Val Thr
 2210 2215 2220
 Ala Ala Phe Gly Val Leu Leu Ser Asn Phe Gly Ala Pro Ser Tyr Cys
 2225 2230 2235 2240
 Asn Gly Val Arg Glu Leu Tyr Leu Asn Ser Ser Asn Val Thr Thr Met
 2245 2250 2255
 Asp Phe Cys Glu Gly Ser Phe Pro Cys Ser Ile Cys Leu Ser Gly Leu
 2260 2265 2270
 Asp Ser Leu Asp Ser Tyr Pro Ala Leu Glu Thr Ile Gln Val Thr Ile
 2275 2280 2285
 Ser Ser Tyr Lys Leu Asp Leu Thr Ile Leu Gly Leu Ala Ala Glu Trp
 2290 2295 2300
 Val Leu Ala Tyr Met Leu Phe Thr Lys Phe Phe Tyr Leu Leu Gly Leu
 2305 2310 2315 2320
 Ser Ala Ile Met Gln Val Phe Phe Gly Tyr Phe Ala Ser His Phe Ile
 2325 2330 2335
 Ser Asn Ser Trp Leu Met Trp Phe Ile Ile Ser Ile Val Gln Met Ala
 2340 2345 2350
 Pro Val Ser Ala Met Val Arg Met Tyr Ile Phe Phe Ala Ser Phe Tyr
 2355 2360 2365
 Tyr Ile Trp Lys Ser Tyr Val His Ile Met Asp Gly Cys Thr Ser Ser
 2370 2375 2380
 Thr Cys Met Met Cys Tyr Lys Arg Asn Arg Ala Thr Arg Val Glu Cys
 2385 2390 2395 2400
 Thr Thr Ile Val Asn Gly Met Lys Arg Ser Phe Tyr Val Tyr Ala Asn
 2405 2410 2415
 Gly Gly Arg Gly Phe Cys Lys Thr His Asn Trp Asn Cys Leu Asn Cys
 2420 2425 2430
 Asp Thr Phe Cys Thr Gly Ser Thr Phe Ile Ser Asp Glu Val Ala Arg
 2435 2440 2445
 Asp Leu Ser Leu Gln Phe Lys Arg Pro Ile Asn Pro Thr Asp Gln Ser
 2450 2455 2460
 Ser Tyr Ile Val Asp Ser Val Ala Val Lys Asn Gly Ala Leu His Leu
 2465 2470 2475 2480
 Tyr Phe Asp Lys Ala Gly Gln Lys Thr Tyr Glu Arg His Pro Leu Ser
 2485 2490 2495
 His Phe Val Asn Leu Asp Asn Leu Arg Ala Asn Asn Thr Lys Gly Ser
 2500 2505 2510
 Leu Pro Ile Asn Val Ile Val Phe Asp Gly Lys Ser Lys Cys Asp Glu
 2515 2520 2525
 Ser Ala Ser Lys Ser Ala Ser Val Tyr Tyr Ser Gln Leu Met Cys Gln
 2530 2535 2540

SEQLIST-20480.TXT

Pro Ile Leu Leu Leu Asp Gln Ala Leu Val Ser Asp Val Gly Asp Ser
 2545 2550 2555 2560
 Thr Glu Val Ser Val Lys Met Phe Asp Ala Tyr Val Asp Thr Phe Ser
 2565 2570 2575
 Ala Thr Phe Ser Val Pro Met Glu Lys Leu Lys Ala Leu Val Ala Thr
 2580 2585 2590
 Ala His Ser Glu Leu Ala Lys Gly Val Ala Leu Asp Gly Val Leu Ser
 2595 2600 2605
 Thr Phe Val Ser Ala Ala Arg Gln Gly Val Val Asp Thr Asp Val Asp
 2610 2615 2620
 Thr Lys Asp Val Ile Glu Cys Leu Lys Leu Ser His His Ser Asp Leu
 2625 2630 2635 2640
 Glu Val Thr Gly Asp Ser Cys Asn Asn Phe Met Leu Thr Tyr Asn Lys
 2645 2650 2655
 Val Glu Asn Met Thr Pro Arg Asp Leu Gly Ala Cys Ile Asp Cys Asn
 2660 2665 2670
 Ala Arg His Ile Asn Ala Gln Val Ala Lys Ser His Asn Val Ser Leu
 2675 2680 2685
 Ile Trp Asn Val Lys Asp Tyr Met Ser Leu Ser Glu Gln Leu Arg Lys
 2690 2695 2700
 Gln Ile Arg Ser Ala Ala Lys Lys Asn Asn Ile Pro Phe Arg Leu Thr
 2705 2710 2715 2720
 Cys Ala Thr Thr Arg Gln Val Val Asn Val Ile Thr Thr Lys Ile Ser
 2725 2730 2735
 Leu Lys Gly Gly Lys Ile Val Ser Thr Cys Phe Lys Leu Met Leu Lys
 2740 2745 2750
 Ala Thr Leu Leu Cys Val Leu Ala Ala Leu Val Cys Tyr Ile Val Met
 2755 2760 2765
 Pro Val His Thr Leu Ser Ile His Asp Gly Tyr Thr Asn Glu Ile Ile
 2770 2775 2780
 Gly Tyr Lys Ala Ile Gln Asp Gly Val Thr Arg Asp Ile Ile Ser Thr
 2785 2790 2795 2800
 Asp Asp Cys Phe Ala Asn Lys His Ala Gly Phe Asp Ala Trp Phe Ser
 2805 2810 2815
 Gln Arg Gly Gly Ser Tyr Lys Asn Asp Lys Ser Cys Pro Val Val Ala
 2820 2825 2830
 Ala Ile Ile Thr Arg Glu Ile Gly Phe Ile Val Pro Gly Leu Pro Gly
 2835 2840 2845
 Thr Val Leu Arg Ala Ile Asn Gly Asp Phe Leu His Phe Leu Pro Arg
 2850 2855 2860
 Val Phe Ser Ala Val Gly Asn Ile Cys Tyr Thr Pro Ser Lys Leu Ile
 2865 2870 2875 2880

SEQLIST-20480.TXT

Glu Tyr Ser Asp Phe Ala Thr Ser Ala Cys Val Leu Ala Ala Glu Cys
 2885 2890 2895
 Thr Ile Phe Lys Asp Ala Met Gly Lys Pro Val Pro Tyr Cys Tyr Asp
 2900 2905 2910
 Thr Asn Leu Leu Glu Gly Ser Ile Ser Tyr Ser Glu Leu Arg Pro Asp
 2915 2920 2925
 Thr Arg Tyr Val Leu Met Asp Gly Ser Ile Ile Gln Phe Pro Asn Thr
 2930 2935 2940
 Tyr Leu Glu Gly Ser Val Arg Val Val Thr Thr Phe Asp Ala Glu Tyr
 2945 2950 2955 2960
 Cys Arg His Gly Thr Cys Glu Arg Ser Glu Val Gly Ile Cys Leu Ser
 2965 2970 2975
 Thr Ser Gly Arg Trp Val Leu Asn Asn Glu His Tyr Arg Ala Leu Ser
 2980 2985 2990
 Gly Val Phe Cys Gly Val Asp Ala Met Asn Leu Ile Ala Asn Ile Phe
 2995 3000 3005
 Thr Pro Leu Val Gln Pro Val Gly Ala Leu Asp Val Ser Ala Ser Val
 3010 3015 3020
 Val Ala Gly Gly Ile Ile Ala Ile Leu Val Thr Cys Ala Ala Tyr Tyr
 3025 3030 3035 3040
 Phe Met Lys Phe Arg Arg Val Phe Gly Glu Tyr Asn His Val Val Ala
 3045 3050 3055
 Ala Asn Ala Leu Leu Phe Leu Met Ser Phe Thr Ile Leu Cys Leu Val
 3060 3065 3070
 Pro Ala Tyr Ser Phe Leu Pro Gly Val Tyr Ser Val Phe Tyr Leu Tyr
 3075 3080 3085
 Leu Thr Phe Tyr Phe Thr Asn Asp Val Ser Phe Leu Ala His Leu Gln
 3090 3095 3100
 Trp Phe Ala Met Phe Ser Pro Ile Val Pro Phe Trp Ile Thr Ala Ile
 3105 3110 3115 3120
 Tyr Val Phe Cys Ile Ser Leu Lys His Cys His Trp Phe Phe Asn Asn
 3125 3130 3135
 Tyr Leu Arg Lys Arg Val Met Phe Asn Gly Val Thr Phe Ser Thr Phe
 3140 3145 3150
 Glu Glu Ala Ala Leu Cys Thr Phe Leu Leu Asn Lys Glu Met Tyr Leu
 3155 3160 3165
 Lys Leu Arg Ser Glu Thr Leu Leu Pro Leu Thr Gln Tyr Asn Arg Tyr
 3170 3175 3180
 Leu Ala Leu Tyr Asn Lys Tyr Lys Tyr Phe Ser Gly Ala Leu Asp Thr
 3185 3190 3195 3200
 Thr Ser Tyr Arg Glu Ala Ala Cys Cys His Leu Ala Lys Ala Leu Asn
 3205 3210 3215

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Asp Phe Ser Asn Ser Gly Ala Asp Val Leu Tyr Gln Pro Pro Gln Thr
 3220 3225 3230
 Ser Ile Thr Ser Ala Val Leu Gln Ser Gly Phe Arg Lys Met Ala Phe
 3235 3240 3245
 Pro Ser Gly Lys Val Glu Gly Cys Met Val Gln Val Thr Cys Gly Thr
 3250 3255 3260
 Thr Thr Leu Asn Gly Leu Trp Leu Asp Asp Thr Val Tyr Cys Pro Arg
 3265 3270 3275 3280
 His Val Ile Cys Thr Ala Glu Asp Met Leu Asn Pro Asn Tyr Glu Asp
 3285 3290 3295
 Leu Leu Ile Arg Lys Ser Asn His Ser Phe Leu Val Gln Ala Gly Asn
 3300 3310
 Val Gln Leu Arg Val Ile Gly His Ser Met Gln Asn Cys Leu Leu Arg
 3315 3320 3325
 Leu Lys Val Asp Thr Ser Asn Pro Lys Thr Pro Lys Tyr Lys Phe Val
 3330 3335 3340
 Arg Ile Gln Pro Gly Gln Thr Phe Ser Val Leu Ala Cys Tyr Asn Gly
 3345 3350 3355 3360
 Ser Pro Ser Gly Val Tyr Gln Cys Ala Met Arg Pro Asn His Thr Ile
 3365 3370 3375
 Lys Gly Ser Phe Leu Asn Gly Ser Cys Gly Ser Val Gly Phe Asn Ile
 3380 3385 3390
 Asp Tyr Asp Cys Val Ser Phe Cys Tyr Met His His Met Glu Leu Pro
 3395 3400 3405
 Thr Gly Val His Ala Gly Thr Asp Leu Glu Gly Lys Phe Tyr Gly Pro
 3410 3415 3420
 Phe Val Asp Arg Gln Thr Ala Gln Ala Ala Gly Thr Asp Thr Thr Ile
 3425 3430 3435 3440
 Thr Leu Asn Val Leu Ala Trp Leu Tyr Ala Ala Val Ile Asn Gly Asp
 3445 3450 3455
 Arg Trp Phe Leu Asn Arg Phe Thr Thr Thr Leu Asn Asp Phe Asn Leu
 3460 3465 3470
 Val Ala Met Lys Tyr Asn Tyr Glu Pro Leu Thr Gln Asp His Val Asp
 3475 3480 3485
 Ile Leu Gly Pro Leu Ser Ala Gln Thr Gly Ile Ala Val Leu Asp Met
 3490 3495 3500
 Cys Ala Ala Leu Lys Glu Leu Leu Gln Asn Gly Met Asn Gly Arg Thr
 3505 3510 3515 3520
 Ile Leu Gly Ser Thr Ile Leu Glu Asp Glu Phe Thr Pro Phe Asp Val
 3525 3530 3535
 Val Arg Gln Cys Ser Gly Val Thr Phe Gln Gly Lys Phe Lys Lys Ile
 3540 3545 3550

SEQLIST-20480.TXT

Val Lys Gly Thr His His Trp Met Leu Leu Thr Phe Leu Thr Ser Leu
 3555 3560 3565
 Leu Ile Leu Val Gln Ser Thr Gln Trp Ser Leu Phe Phe Phe Val Tyr
 3570 3575 3580
 Glu Asn Ala Phe Leu Pro Phe Thr Leu Gly Ile Met Ala Ile Ala Ala
 3585 3590 3595 3600
 Cys Ala Met Leu Leu Val Lys His Lys His Ala Phe Leu Cys Leu Phe
 3605 3610 3615
 Leu Leu Pro Ser Leu Ala Thr Val Ala Tyr Phe Asn Met Val Tyr Met
 3620 3625 3630
 Pro Ala Ser Trp Val Met Arg Ile Met Thr Trp Leu Glu Leu Ala Asp
 3635 3640 3645
 Thr Ser Leu Ser Gly Tyr Arg Leu Lys Asp Cys Val Met Tyr Ala Ser
 3650 3655 3660
 Ala Leu Val Leu Leu Ile Leu Met Thr Ala Arg Thr Val Tyr Asp Asp
 3665 3670 3675 3680
 Ala Ala Arg Arg Val Trp Thr Leu Met Asn Val Ile Thr Leu Val Tyr
 3685 3690 3695
 Lys Val Tyr Tyr Gly Asn Ala Leu Asp Gln Ala Ile Ser Met Trp Ala
 3700 3705 3710
 Leu Val Ile Ser Val Thr Ser Asn Tyr Ser Gly Val Val Thr Thr Ile
 3715 3720 3725
 Met Phe Leu Ala Arg Ala Ile Val Phe Val Cys Val Glu Tyr Tyr Pro
 3730 3735 3740
 Leu Leu Phe Ile Thr Gly Asn Thr Leu Gln Cys Ile Met Leu Val Tyr
 3745 3750 3755 3760
 Cys Phe Leu Gly Tyr Cys Cys Cys Cys Tyr Phe Gly Leu Phe Cys Leu
 3765 3770 3775
 Leu Asn Arg Tyr Phe Arg Leu Thr Leu Gly Val Tyr Asp Tyr Leu Val
 3780 3785 3790
 Ser Thr Gln Glu Phe Arg Tyr Met Asn Ser Gln Gly Leu Leu Pro Pro
 3795 3800 3805
 Lys Ser Ser Ile Asp Ala Phe Lys Leu Asn Ile Lys Leu Leu Gly Ile
 3810 3815 3820
 Gly Gly Lys Pro Cys Ile Lys Val Ala Thr Val Gln Ser Lys Met Ser
 3825 3830 3835 3840
 Asp Val Lys Cys Thr Ser Val Val Leu Leu Ser Val Leu Gln Gln Leu
 3845 3850 3855
 Arg Val Glu Ser Ser Ser Lys Leu Trp Ala Gln Cys Val Gln Leu His
 3860 3865 3870
 Asn Asp Ile Leu Leu Ala Lys Asp Thr Thr Glu Ala Phe Glu Lys Met
 3875 3880 3885

SEQLIST-20480.TXT

Val Ser Leu Leu Ser Val Leu Leu Ser Met Gln Gly Ala Val Asp Ile
3890 3895 3900

Asn Arg Leu Cys Glu Glu Met Leu Asp Asn Arg Ala Thr Leu Gln Ala
3905 3910 3915 3920

Ile Ala Ser Glu Phe Ser Ser Leu Pro Ser Tyr Ala Ala Tyr Ala Thr
3925 3930 3935

Ala Gln Glu Ala Tyr Glu Gln Ala Val Ala Asn Gly Asp Ser Glu Val
3940 3945 3950

Val Leu Lys Lys Leu Lys Lys Ser Leu Asn Val Ala Lys Ser Glu Phe
3955 3960 3965

Asp Arg Asp Ala Ala Met Gln Arg Lys Leu Glu Lys Met Ala Asp Gln
3970 3975 3980

Ala Met Thr Gln Met Tyr Lys Gln Ala Arg Ser Glu Asp Lys Arg Ala
3985 3990 3995 4000

Lys Val Thr Ser Ala Met Gln Thr Met Leu Phe Thr Met Leu Arg Lys
4005 4010 4015

Leu Asp Asn Asp Ala Leu Asn Asn Ile Ile Asn Asn Ala Arg Asp Gly
4020 4025 4030

Cys Val Pro Leu Asn Ile Ile Pro Leu Thr Thr Ala Ala Lys Leu Met
4035 4040 4045

Val Val Val Pro Asp Tyr Gly Thr Tyr Lys Asn Thr Cys Asp Gly Asn
4050 4055 4060

Thr Phe Thr Tyr Ala Ser Ala Leu Trp Glu Ile Gln Gln Val Val Asp
4065 4070 4075 4080

Ala Asp Ser Lys Ile Val Gln Leu Ser Glu Ile Asn Met Asp Asn Ser
4085 4090 4095

Pro Asn Leu Ala Trp Pro Leu Ile Val Thr Ala Leu Arg Ala Asn Ser
4100 4105 4110

Ala Val Lys Leu Gln Asn Asn Glu Leu Ser Pro Val Ala Leu Arg Gln
4115 4120 4125

Met Ser Cys Ala Ala Gly Thr Thr Gln Thr Ala Cys Thr Asp Asp Asn
4130 4135 4140

Ala Leu Ala Tyr Tyr Asn Asn Ser Lys Gly Gly Arg Phe Val Leu Ala
4145 4150 4155 4160

Leu Leu Ser Asp His Gln Asp Leu Lys Trp Ala Arg Phe Pro Lys Ser
4165 4170 4175

Asp Gly Thr Gly Thr Ile Tyr Thr Glu Leu Glu Pro Pro Cys Arg Phe
4180 4185 4190

Val Thr Asp Thr Pro Lys Gly Pro Lys Val Lys Tyr Leu Tyr Phe Ile
4195 4200 4205

Lys Gly Leu Asn Asn Leu Asn Arg Gly Met Val Leu Gly Ser Leu Ala
4210 4215 4220

SEQLIST-20480.TXT

Ala Thr Val Arg Leu Gln Ala Gly Asn Ala Thr Glu Val Pro Ala Asn
4225 4230 4235 4240

Ser Thr Val Leu Ser Phe Cys Ala Phe Ala Val Asp Pro Ala Lys Ala
4245 4250 4255

Tyr Lys Asp Tyr Leu Ala Ser Gly Gly Gln Pro Ile Thr Asn Cys Val
4260 4265 4270

Lys Met Leu Cys Thr His Thr Gly Thr Gly Gln Ala Ile Thr Val Thr
4275 4280 4285

Pro Glu Ala Asn Met Asp Gln Glu Ser Phe Gly Gly Ala Ser Cys Cys
4290 4295 4300

Leu Tyr Cys Arg Cys His Ile Asp His Pro Asn Pro Lys Gly Phe Cys
4305 4310 4315 4320

Asp Leu Lys Gly Lys Tyr Val Gln Ile Pro Thr Thr Cys Ala Asn Asp
4325 4330 4335

Pro Val Gly Phe Thr Leu Arg Asn Thr Val Cys Thr Val Cys Gly Met
4340 4345 4350

Trp Lys Gly Tyr Gly Cys Ser Cys Asp Gln Leu Arg Glu Pro Leu Met
4355 4360 4365

Gln Ser Ala Asp Ala Ser Thr Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
4370 4375 4380

Gly Val Ser Ala Ala Arg Leu Thr Pro Cys Gly Thr Gly Thr Ser Thr
4385 4390 4395 4400

Asp Val Val Tyr Arg Ala Phe Asp Ile Tyr Asn Glu Lys Val Ala Gly
4405 4410 4415

Phe Ala Lys Phe Leu Lys Thr Asn Cys Cys Arg Phe Gln Glu Lys Asp
4420 4425 4430

Glu Glu Gly Asn Leu Leu Asp Ser Tyr Phe Val Val Lys Arg His Thr
4435 4440 4445

Met Ser Asn Tyr Gln His Glu Glu Thr Ile Tyr Asn Leu Val Lys Asp
4450 4455 4460

Cys Pro Ala Val Ala Val His Asp Phe Phe Lys Phe Arg Val Asp Gly
4465 4470 4475 4480

Asp Met Val Pro His Ile Ser Arg Gln Arg Leu Thr Lys Tyr Thr Met
4485 4490 4495

Ala Asp Leu Val Tyr Ala Leu Arg His Phe Asp Glu Gly Asn Cys Asp
4500 4505 4510

Thr Leu Lys Glu Ile Leu Val Thr Tyr Asn Cys Cys Asp Asp Asp Tyr
4515 4520 4525

Phe Asn Lys Lys Asp Trp Tyr Asp Phe Val Glu Asn Pro Asp Ile Leu
4530 4535 4540

Arg Val Tyr Ala Asn Leu Gly Glu Arg Val Arg Gln Ser Leu Leu Lys
4545 4550 4555 4560

SEQLIST-20480.TXT

Thr Val Gln Phe Cys Asp Ala Met Arg Asp Ala Gly Ile Val Gly Val
 4565 4570 4575
 Leu Thr Leu Asp Asn Gln Asp Leu Asn Gly Asn Trp Tyr Asp Phe Gly
 4580 4585 4590
 Asp Phe Val Gln Val Ala Pro Gly Cys Gly Val Pro Ile Val Asp Ser
 4595 4600 4605
 Tyr Tyr Ser Leu Leu Met Pro Ile Leu Thr Leu Thr Arg Ala Leu Ala
 4610 4615 4620
 Ala Glu Ser His Met Asp Ala Asp Leu Ala Lys Pro Leu Ile Lys Trp
 4625 4630 4635 4640
 Asp Leu Leu Lys Tyr Asp Phe Thr Glu Glu Arg Leu Cys Leu Phe Asp
 4645 4650 4655
 Arg Tyr Phe Lys Tyr Trp Asp Gln Thr Tyr His Pro Asn Cys Ile Asn
 4660 4665 4670
 Cys Leu Asp Asp Arg Cys Ile Leu His Cys Ala Asn Phe Asn Val Leu
 4675 4680 4685
 Phe Ser Thr Val Phe Pro Pro Thr Ser Phe Gly Pro Leu Val Arg Lys
 4690 4695 4700
 Ile Phe Val Asp Gly Val Pro Phe Val Val Ser Thr Gly Tyr His Phe
 4705 4710 4715 4720
 Arg Glu Leu Gly Val Val His Asn Gln Asp Val Asn Leu His Ser Ser
 4725 4730 4735
 Arg Leu Ser Phe Lys Glu Leu Leu Val Tyr Ala Ala Asp Pro Ala Met
 4740 4745 4750
 His Ala Ala Ser Gly Asn Leu Leu Leu Asp Lys Arg Thr Thr Cys Phe
 4755 4760 4765
 Ser Val Ala Ala Leu Thr Asn Asn Val Ala Phe Gln Thr Val Lys Pro
 4770 4775 4780
 Gly Asn Phe Asn Lys Asp Phe Tyr Asp Phe Ala Val Ser Lys Gly Phe
 4785 4790 4795 4800
 Phe Lys Glu Gly Ser Ser Val Glu Leu Lys His Phe Phe Phe Ala Gln
 4805 4810 4815
 Asp Gly Asn Ala Ala Ile Ser Asp Tyr Asp Tyr Tyr Arg Tyr Asn Leu
 4820 4825 4830
 Pro Thr Met Cys Asp Ile Arg Gln Leu Leu Phe Val Val Glu Val Val
 4835 4840 4845
 Asp Lys Tyr Phe Asp Cys Tyr Asp Gly Gly Cys Ile Asn Ala Asn Gln
 4850 4855 4860
 Val Ile Val Asn Asn Leu Asp Lys Ser Ala Gly Phe Pro Phe Asn Lys
 4865 4870 4875 4880
 Trp Gly Lys Ala Arg Leu Tyr Tyr Asp Ser Met Ser Tyr Glu Asp Gln
 4885 4890 4895

SEQLIST-20480.TXT

Asp Ala Leu Phe Ala Tyr Thr Lys Arg Asn Val Ile Pro Thr Ile Thr
 4900 4905 4910
 Gln Met Asn Leu Lys Tyr Ala Ile Ser Ala Lys Asn Arg Ala Arg Thr
 4915 4920 4925
 Val Ala Gly Val Ser Ile Cys Ser Thr Met Thr Asn Arg Gln Phe His
 4930 4935 4940
 Gln Lys Leu Leu Lys Ser Ile Ala Ala Thr Arg Gly Ala Thr Val Val
 4945 4950 4955 4960
 Ile Gly Thr Ser Lys Phe Tyr Gly Gly Trp His Asn Met Leu Lys Thr
 4965 4970 4975
 Val Tyr Ser Asp Val Glu Thr Pro His Leu Met Gly Trp Asp Tyr Pro
 4980 4985 4990
 Lys Cys Asp Arg Ala Met Pro Asn Met Leu Arg Ile Met Ala Ser Leu
 4995 5000 5005
 Val Leu Ala Arg Lys His Asn Thr Cys Cys Asn Leu Ser His Arg Phe
 5010 5015 5020
 Tyr Arg Leu Ala Asn Glu Cys Ala Gln Val Leu Ser Glu Met Val Met
 5025 5030 5035 5040
 Cys Gly Gly Ser Leu Tyr Val Lys Pro Gly Gly Thr Ser Ser Gly Asp
 5045 5050 5055
 Ala Thr Thr Ala Tyr Ala Asn Ser Val Phe Asn Ile Cys Gln Ala Val
 5060 5065 5070
 Thr Ala Asn Val Asn Ala Leu Leu Ser Thr Asp Gly Asn Lys Ile Ala
 5075 5080 5085
 Asp Lys Tyr Val Arg Asn Leu Gln His Arg Leu Tyr Glu Cys Leu Tyr
 5090 5095 5100
 Arg Asn Arg Asp Val Asp His Glu Phe Val Asp Glu Phe Tyr Ala Tyr
 5105 5110 5115 5120
 Leu Arg Lys His Phe Ser Met Met Ile Leu Ser Asp Asp Ala Val Val
 5125 5130 5135
 Cys Tyr Asn Ser Asn Tyr Ala Ala Gln Gly Leu Val Ala Ser Ile Lys
 5140 5145 5150
 Asn Phe Lys Ala Val Leu Tyr Tyr Gln Asn Asn Val Phe Met Ser Glu
 5155 5160 5165
 Ala Lys Cys Trp Thr Glu Thr Asp Leu Thr Lys Gly Pro His Glu Phe
 5170 5175 5180
 Cys Ser Gln His Thr Met Leu Val Lys Gln Gly Asp Asp Tyr Val Tyr
 5185 5190 5195 5200
 Leu Pro Tyr Pro Asp Pro Ser Arg Ile Leu Gly Ala Gly Cys Phe Val
 5205 5210 5215
 Asp Asp Ile Val Lys Thr Asp Gly Thr Leu Met Ile Glu Arg Phe Val
 5220 5225 5230

SEQLIST-20480.TXT

Ser Leu Ala Ile Asp Ala Tyr Pro Leu Thr Lys His Pro Asn Gln Glu
5235 5240 5245

Tyr Ala Asp Val Phe His Leu Tyr Leu Gln Tyr Ile Arg Lys Leu His
5250 5255 5260

Asp Glu Leu Thr Gly His Met Leu Asp Met Tyr Ser Val Met Leu Thr
5265 5270 5275 5280

Asn Asp Asn Thr Ser Arg Tyr Trp Glu Pro Glu Phe Tyr Glu Ala Met
5285 5290 5295

Tyr Thr Pro His Thr Val Leu Gln Ala Val Gly Ala Cys Val Leu Cys
5300 5305 5310

Asn Ser Gln Thr Ser Leu Arg Cys Gly Ala Cys Ile Arg Arg Pro Phe
5315 5320 5325

Leu Cys Cys Lys Cys Cys Tyr Asp His Val Ile Ser Thr Ser His Lys
5330 5335 5340

Leu Val Leu Ser Val Asn Pro Tyr Val Cys Asn Ala Pro Gly Cys Asp
5345 5350 5355 5360

Val Thr Asp Val Thr Gln Leu Tyr Leu Gly Gly Met Ser Tyr Tyr Cys
5365 5370 5375

Lys Ser His Lys Pro Pro Ile Ser Phe Pro Leu Cys Ala Asn Gly Gln
5380 5385 5390

Val Phe Gly Leu Tyr Lys Asn Thr Cys Val Gly Ser Asp Asn Val Thr
5395 5400 5405

Asp Phe Asn Ala Ile Ala Thr Cys Asp Trp Thr Asn Ala Gly Asp Tyr
5410 5415 5420

Ile Leu Ala Asn Thr Cys Thr Glu Arg Leu Lys Leu Phe Ala Ala Glu
5425 5430 5435 5440

Thr Leu Lys Ala Thr Glu Glu Thr Phe Lys Leu Ser Tyr Gly Ile Ala
5445 5450 5455

Thr Val Arg Glu Val Leu Ser Asp Arg Glu Leu His Leu Ser Trp Glu
5460 5465 5470

Val Gly Lys Pro Arg Pro Pro Leu Asn Arg Asn Tyr Val Phe Thr Gly
5475 5480 5485

Tyr Arg Val Thr Lys Asn Ser Lys Val Gln Ile Gly Glu Tyr Thr Phe
5490 5495 5500

Glu Lys Gly Asp Tyr Gly Asp Ala Val Val Tyr Arg Gly Thr Thr Thr
5505 5510 5515 5520

Tyr Lys Leu Asn Val Gly Asp Tyr Phe Val Leu Thr Ser His Thr Val
5525 5530 5535

Met Pro Leu Ser Ala Pro Thr Leu Val Pro Gln Glu His Tyr Val Arg
5540 5545 5550

Ile Thr Gly Leu Tyr Pro Thr Leu Asn Ile Ser Asp Glu Phe Ser Ser
5555 5560 5565

SEQLIST-20480.TXT

Asn Val Ala Asn Tyr Gln Lys Val Gly Met Gln Lys Tyr Ser Thr Leu
 5570 5575 5580
 Gln Gly Pro Pro Gly Thr Gly Lys Ser His Phe Ala Ile Gly Leu Ala
 5585 5590 5595 5600
 Leu Tyr Tyr Pro Ser Ala Arg Ile Val Tyr Thr Ala Cys Ser His Ala
 5605 5610 5615
 Ala Val Asp Ala Leu Cys Glu Lys Ala Leu Lys Tyr Leu Pro Ile Asp
 5620 5625 5630
 Lys Cys Ser Arg Ile Ile Pro Ala Arg Ala Arg Val Glu Cys Phe Asp
 5635 5640 5645
 Lys Phe Lys Val Asn Ser Thr Leu Glu Gln Tyr Val Phe Cys Thr Val
 5650 5655 5660
 Asn Ala Leu Pro Glu Thr Thr Ala Asp Ile Val Val Phe Asp Glu Ile
 5665 5670 5675 5680
 Ser Met Ala Thr Asn Tyr Asp Leu Ser Val Val Asn Ala Arg Leu Arg
 5685 5690 5695
 Ala Lys His Tyr Val Tyr Ile Gly Asp Pro Ala Gln Leu Pro Ala Pro
 5700 5705 5710
 Arg Thr Leu Leu Thr Lys Gly Thr Leu Glu Pro Glu Tyr Phe Asn Ser
 5715 5720 5725
 Val Cys Arg Leu Met Lys Thr Ile Gly Pro Asp Met Phe Leu Gly Thr
 5730 5735 5740
 Cys Arg Arg Cys Pro Ala Glu Ile Val Asp Thr Val Ser Ala Leu Val
 5745 5750 5755 5760
 Tyr Asp Asn Lys Leu Lys Ala His Lys Asp Lys Ser Ala Gln Cys Phe
 5765 5770 5775
 Lys Met Phe Tyr Lys Gly Val Ile Thr His Asp Val Ser Ser Ala Ile
 5780 5785 5790
 Asn Arg Pro Gln Ile Gly Val Val Arg Glu Phe Leu Thr Arg Asn Pro
 5795 5800 5805
 Ala Trp Arg Lys Ala Val Phe Ile Ser Pro Tyr Asn Ser Gln Asn Ala
 5810 5815 5820
 Val Ala Ser Lys Ile Leu Gly Leu Pro Thr Gln Thr Val Asp Ser Ser
 5825 5830 5835 5840
 Gln Gly Ser Glu Tyr Asp Tyr Val Ile Phe Thr Gln Thr Thr Glu Thr
 5845 5850 5855
 Ala His Ser Cys Asn Val Asn Arg Phe Asn Val Ala Ile Thr Arg Ala
 5860 5865 5870
 Lys Ile Gly Ile Leu Cys Ile Met Ser Asp Arg Asp Leu Tyr Asp Lys
 5875 5880 5885
 Leu Gln Phe Thr Ser Leu Glu Ile Pro Arg Arg Asn Val Ala Thr Leu
 5890 5895 5900

SEQLIST-20480.TXT

Gln Ala Glu Asn Val Thr Gly Leu Phe Lys Asp Cys Ser Lys Ile Ile
5905 5910 5915 5920

Thr Gly Leu His Pro Thr Gln Ala Pro Thr His Leu Ser Val Asp Ile
5925 5930 5935

Lys Phe Lys Thr Glu Gly Leu Cys Val Asp Ile Pro Gly Ile Pro Lys
5940 5945 5950

Asp Met Thr Tyr Arg Arg Leu Ile Ser Met Met Gly Phe Lys Met Asn
5955 5960 5965

Tyr Gln Val Asn Gly Tyr Pro Asn Met Phe Ile Thr Arg Glu Glu Ala
5970 5975 5980

Ile Arg His Val Arg Ala Trp Ile Gly Phe Asp Val Glu Gly Cys His
5985 5990 5995 6000

Ala Thr Arg Asp Ala Val Gly Thr Asn Leu Pro Leu Gln Leu Gly Phe
6005 6010 6015

Ser Thr Gly Val Asn Leu Val Ala Val Pro Thr Gly Tyr Val Asp Thr
6020 6025 6030

Glu Asn Asn Thr Glu Phe Thr Arg Val Asn Ala Lys Pro Pro Pro Gly
6035 6040 6045

Asp Gln Phe Lys His Leu Ile Pro Leu Met Tyr Lys Gly Leu Pro Trp
6050 6055 6060

Asn Val Val Arg Ile Lys Ile Val Gln Met Leu Ser Asp Thr Leu Lys
6065 6070 6075 6080

Gly Leu Ser Asp Arg Val Val Phe Val Leu Trp Ala His Gly Phe Glu
6085 6090 6095

Leu Thr Ser Met Lys Tyr Phe Val Lys Ile Gly Pro Glu Arg Thr Cys
6100 6105 6110

Cys Leu Cys Asp Lys Arg Ala Thr Cys Phe Ser Thr Ser Ser Asp Thr
6115 6120 6125

Tyr Ala Cys Trp Asn His Ser Val Gly Phe Asp Tyr Val Tyr Asn Pro
6130 6135 6140

Phe Met Ile Asp Val Gln Gln Trp Gly Phe Thr Gly Asn Leu Gln Ser
6145 6150 6155 6160

Asn His Asp Gln His Cys Gln Val His Gly Asn Ala His Val Ala Ser
6165 6170 6175

Cys Asp Ala Ile Met Thr Arg Cys Leu Ala Val His Glu Cys Phe Val
6180 6185 6190

Lys Arg Val Asp Trp Ser Val Glu Tyr Pro Ile Ile Gly Asp Glu Leu
6195 6200 6205

Arg Val Asn Ser Ala Cys Arg Lys Val Gln His Met Val Val Lys Ser
6210 6215 6220

Ala Leu Leu Ala Asp Lys Phe Pro Val Leu His Asp Ile Gly Asn Pro
6225 6230 6235 6240

SEQLIST-20480.TXT

Lys Ala Ile Lys Cys Val Pro Gln Ala Glu Val Glu Trp Lys Phe Tyr
 6245 6250 6255
 Asp Ala Gln Pro Cys Ser Asp Lys Ala Tyr Lys Ile Glu Glu Leu Phe
 6260 6265 6270
 Tyr Ser Tyr Ala Thr His His Asp Lys Phe Thr Asp Gly Val Cys Leu
 6275 6280 6285
 Phe Trp Asn Cys Asn Val Asp Arg Tyr Pro Ala Asn Ala Ile Val Cys
 6290 6295 6300
 Arg Phe Asp Thr Arg Val Leu Ser Asn Leu Asn Leu Pro Gly Cys Asp
 6305 6310 6315 6320
 Gly Gly Ser Leu Tyr Val Asn Lys His Ala Phe His Thr Pro Ala Phe
 6325 6330 6335
 Asp Lys Ser Ala Phe Thr Asn Leu Lys Gln Leu Pro Phe Phe Tyr Tyr
 6340 6345 6350
 Ser Asp Ser Pro Cys Glu Ser His Gly Lys Gln Val Val Ser Asp Ile
 6355 6360 6365
 Asp Tyr Val Pro Leu Lys Ser Ala Thr Cys Ile Thr Arg Cys Asn Leu
 6370 6375 6380
 Gly Gly Ala Val Cys Arg His His Ala Asn Glu Tyr Arg Gln Tyr Leu
 6385 6390 6395 6400
 Asp Ala Tyr Asn Met Met Ile Ser Ala Gly Phe Ser Leu Trp Ile Tyr
 6405 6410 6415
 Lys Gln Phe Asp Thr Tyr Asn Leu Trp Asn Thr Phe Thr Arg Leu Gln
 6420 6425 6430
 Ser Leu Glu Asn Val Ala Tyr Asn Val Val Asn Lys Gly His Phe Asp
 6435 6440 6445
 Gly His Ala Gly Glu Ala Pro Val Ser Ile Ile Asn Asn Ala Val Tyr
 6450 6455 6460
 Thr Lys Val Asp Gly Ile Asp Val Glu Ile Phe Glu Asn Lys Thr Thr
 6465 6470 6475 6480
 Leu Pro Val Asn Val Ala Phe Glu Leu Trp Ala Lys Arg Asn Ile Lys
 6485 6490 6495
 Pro Val Pro Glu Ile Lys Ile Leu Asn Asn Leu Gly Val Asp Ile Ala
 6500 6505 6510
 Ala Asn Thr Val Ile Trp Asp Tyr Lys Arg Glu Ala Pro Ala His Val
 6515 6520 6525
 Ser Thr Ile Gly Val Cys Thr Met Thr Asp Ile Ala Lys Lys Pro Thr
 6530 6535 6540
 Glu Ser Ala Cys Ser Ser Leu Thr Val Leu Phe Asp Gly Arg Val Glu
 6545 6550 6555 6560
 Gly Gln Val Asp Leu Phe Arg Asn Ala Arg Asn Gly Val Leu Ile Thr
 6565 6570 6575

SEQLIST-20480.TXT

Glu Gly Ser Val Lys Gly Leu Thr Pro Ser Lys Gly Pro Ala Gln Ala
 6580 6585 6590
 Ser Val Asn Gly Val Thr Leu Ile Gly Glu Ser Val Lys Thr Gln Phe
 6595 6600 6605
 Asn Tyr Phe Lys Lys Val Asp Gly Ile Ile Gln Gln Leu Pro Glu Thr
 6610 6615 6620
 Tyr Phe Thr Gln Ser Arg Asp Leu Glu Asp Phe Lys Pro Arg Ser Gln
 6625 6630 6635 6640
 Met Glu Thr Asp Phe Leu Glu Leu Ala Met Asp Glu Phe Ile Gln Arg
 6645 6650 6655
 Tyr Lys Leu Glu Gly Tyr Ala Phe Glu His Ile Val Tyr Gly Asp Phe
 6660 6665 6670
 Ser His Gly Gln Leu Gly Gly Leu His Leu Met Ile Gly Leu Ala Lys
 6675 6680 6685
 Arg Ser Gln Asp Ser Pro Leu Lys Leu Glu Asp Phe Ile Pro Met Asp
 6690 6695 6700
 Ser Thr Val Lys Asn Tyr Phe Ile Thr Asp Ala Gln Thr Gly Ser Ser
 6705 6710 6715 6720
 Lys Cys Val Cys Ser Val Ile Asp Leu Leu Leu Asp Asp Phe Val Glu
 6725 6730 6735
 Ile Ile Lys Ser Gln Asp Leu Ser Val Ile Ser Lys Val Val Lys Val
 6740 6745 6750
 Thr Ile Asp Tyr Ala Glu Ile Ser Phe Met Leu Trp Cys Lys Asp Gly
 6755 6760 6765
 His Val Glu Thr Phe Tyr Pro Lys Leu Gln Ala Ser Arg Ala Trp Gln
 6770 6775 6780
 Pro Gly Val Ala Met Pro Asn Leu Tyr Lys Met Gln Arg Met Leu Leu
 6785 6790 6795 6800
 Glu Lys Cys Asp Leu Gln Asn Tyr Gly Glu Asn Ala Val Ile Pro Lys
 6805 6810 6815
 Gly Ile Met Met Asn Val Ala Lys Tyr Thr Gln Leu Cys Gln Tyr Leu
 6820 6825 6830
 Asn Thr Leu Thr Leu Ala Val Pro Tyr Asn Met Arg Val Ile His Phe
 6835 6840 6845
 Gly Ala Gly Ser Asp Lys Gly Val Ala Pro Gly Thr Ala Val Leu Arg
 6850 6855 6860
 Gln Trp Leu Pro Thr Gly Thr Leu Leu Val Asp Ser Asp Leu Asn Asp
 6865 6870 6875 6880
 Phe Val Ser Asp Ala Tyr Ser Thr Leu Ile Gly Asp Cys Ala Thr Val
 6885 6890 6895
 His Thr Ala Asn Lys Trp Asp Leu Ile Ile Ser Asp Met Tyr Asp Pro
 6900 6905 6910

SEQLIST-20480.TXT

Arg Thr Lys His Val Thr Lys Glu Asn Asp Ser Lys Glu Gly Phe Phe
6915 6920 6925
Thr Tyr Leu Cys Gly Phe Ile Lys Gln Lys Leu Ala Leu Gly Gly Ser
6930 6935 6940
Ile Ala Val Lys Ile Thr Glu His Ser Trp Asn Ala Asp Leu Tyr Lys
6945 6950 6955 6960
Leu Met Gly His Phe Ser Trp Trp Thr Ala Phe Val Thr Asn Val Asn
6965 6970 6975
Ala Ser Ser Ser Glu Ala Phe Leu Ile Gly Ala Asn Tyr Leu Gly Lys
6980 6985 6990
Pro Lys Glu Gln Ile Asp Gly Tyr Thr Met His Ala Asn Tyr Ile Phe
6995 7000 7005
Trp Arg Asn Thr Asn Pro Ile Gln Leu Ser Ser Tyr Ser Leu Phe Asp
7010 7015 7020
Met Ser Lys Phe Pro Leu Lys Leu Arg Gly Thr Ala Val Met Ser Leu
7025 7030 7035 7040
Lys Glu Asn Gln Ile Asn Asp Met Ile Tyr Ser Leu Leu Glu Lys Gly
7045 7050 7055
Arg Leu Ile Ile Arg Glu Asn Asn Arg Val Val Val Ser Ser Asp Ile
7060 7065 7070

Leu Val Asn Asn
7075

<210> 7244
<211> 7077
<212> PRT
<213> SARS coronavirus

<220>
<221> misc_feature
<222> 4376...4385
<223> Xaa is any amino acid

<400> 7244
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Ser Leu Pro Val Leu Gln Val Arg Asp Val Leu Val Arg Gly Phe Gly
20 25 30
Asp Ser Val Glu Glu Ala Leu Ser Glu Ala Arg Glu His Leu Lys Asn
35 40 45
Gly Thr Cys Gly Leu Val Glu Leu Glu Lys Gly Val Leu Pro Gln Leu
50 55 60
Glu Gln Pro Tyr Val Phe Ile Lys Arg Ser Asp Ala Leu Ser Thr Asn
65 70 75 80
His Gly His Lys Val Val Glu Leu Val Ala Glu Met Asp Gly Ile Gln
85 90 95

SEQLIST-20480.TXT

Tyr Gly Arg Ser Gly Ile Thr Leu Gly Val Leu Val Pro His Val Gly
 100 105 110
 Glu Thr Pro Ile Ala Tyr Arg Asn Val Leu Leu Arg Lys Asn Gly Asn
 115 120 125
 Lys Gly Ala Gly Gly His Ser Tyr Gly Ile Asp Leu Lys Ser Tyr Asp
 130 135 140
 Leu Gly Asp Glu Leu Gly Thr Asp Pro Ile Glu Asp Tyr Glu Gln Asn
 145 150 155 160
 Trp Asn Thr Lys His Gly Ser Gly Ala Leu Arg Glu Leu Thr Arg Gly
 165 170 175
 Leu Asn Gly Gly Ala Val Thr Arg Tyr Val Asp Asn Asn Phe Cys Gly
 180 185 190
 Pro Asp Gly Tyr Pro Leu Asp Cys Ile Lys Asp Phe Leu Ala Arg Ala
 195 200 205
 Gly Lys Ser Met Cys Thr Leu Ser Glu Gln Leu Asp Tyr Ile Glu Ser
 210 215 220
 Lys Arg Gly Val Tyr Cys Cys Arg Asp His Glu His Glu Ile Ala Trp
 225 230 235 240
 Phe Thr Glu Arg Ser Asp Lys Ser Tyr Glu His Gln Thr Pro Phe Glu
 245 250 255
 Ile Lys Ser Ala Lys Lys Phe Asp Thr Phe Lys Gly Glu Cys Pro Lys
 260 265 270
 Phe Val Phe Pro Leu Asn Ser Lys Val Lys Val Ile Gln Pro Arg Val
 275 280 285
 Glu Lys Lys Lys Thr Glu Gly Phe Met Gly Arg Ile Arg Ser Val Tyr
 290 295 300
 Pro Val Ala Ser Pro Gln Glu Cys Asn Asn Met His Leu Ser Thr Leu
 305 310 315 320
 Met Lys Cys Asn His Cys Asp Glu Val Ser Trp Gln Thr Cys Asp Phe
 325 330 335
 Leu Lys Ala Thr Cys Glu His Cys Gly Thr Glu Asn Leu Val Ile Glu
 340 345 350
 Gly Pro Thr Thr Cys Gly Tyr Leu Pro Thr Asn Ala Val Val Lys Met
 355 360 365
 Pro Cys Pro Ala Cys Gln Asp Pro Glu Ile Gly Pro Glu His Ser Val
 370 375 380
 Ala Asp Tyr His Asn His Ser Asn Ile Glu Thr Arg Leu Arg Lys Gly
 385 390 395 400
 Gly Arg Thr Arg Cys Phe Gly Gly Cys Val Phe Ala Tyr Val Gly Cys
 405 410 415
 Tyr Asn Lys Arg Ala Tyr Trp Val Pro Arg Ala Ser Ala Asp Ile Gly
 420 425 430

SEQLIST-20480.TXT

Ser Gly His Thr Gly Ile Thr Gly Asp Asn Val Glu Thr Leu Asn Glu
435 440 445
Asp Leu Leu Glu Ile Leu Ser Arg Glu Arg Val Asn Ile Asn Ile Val
450 455 460
Gly Asp Phe His Leu Asn Glu Glu Val Ala Ile Ile Leu Ala Ser Phe
465 470 475 480
Ser Ala Ser Thr Ser Ala Phe Ile Asp Thr Ile Lys Ser Leu Asp Tyr
485 490 495
Lys Ser Phe Lys Thr Ile Val Glu Ser Cys Gly Asn Tyr Lys Val Thr
500 505 510
Lys Gly Lys Pro Val Lys Gly Ala Trp Asn Ile Gly Gln Gln Arg Ser
515 520 525
Val Leu Thr Pro Leu Cys Gly Phe Pro Ser Gln Ala Ala Gly Val Ile
530 535 540
Arg Ser Ile Phe Ala Arg Thr Leu Asp Ala Ala Asn His Ser Ile Pro
545 550 555 560
Asp Leu Gln Arg Ala Ala Val Thr Ile Leu Asp Gly Ile Ser Glu Gln
565 570 575
Ser Leu Arg Leu Val Asp Ala Met Val Tyr Thr Ser Asp Leu Leu Thr
580 585 590
Asn Ser Val Ile Ile Met Ala Tyr Val Thr Gly Gly Leu Val Gln Gln
595 600 605
Thr Ser Gln Trp Leu Ser Asn Leu Leu Gly Thr Thr Val Glu Lys Leu
610 615 620
Arg Pro Ile Phe Glu Trp Ile Glu Ala Lys Leu Ser Ala Gly Val Glu
625 630 635 640
Phe Leu Lys Asp Ala Trp Glu Ile Leu Lys Phe Leu Ile Thr Gly Val
645 650 655
Phe Asp Ile Val Lys Gly Gln Ile Gln Val Ala Ser Asp Asn Ile Lys
660 665 670
Asp Cys Val Lys Cys Phe Ile Asp Val Val Asn Lys Ala Leu Glu Met
675 680 685
Cys Ile Asp Gln Val Thr Ile Ala Gly Ala Lys Leu Arg Ser Leu Asn
690 695 700
Leu Gly Glu Val Phe Ile Ala Gln Ser Lys Gly Leu Tyr Arg Gln Cys
705 710 715 720
Ile Arg Gly Lys Glu Gln Leu Gln Leu Leu Met Pro Leu Lys Ala Pro
725 730 735
Lys Glu Val Thr Phe Leu Glu Gly Asp Ser His Asp Thr Val Leu Thr
740 745 750
Ser Glu Glu Val Val Leu Lys Asn Gly Glu Leu Glu Ala Leu Glu Thr
755 760 765

SEQLIST-20480.TXT

Pro Val Asp Ser Phe Thr Asn Gly Ala Ile Val Gly Thr Pro Val Cys
770 775 780

Val Asn Gly Leu Met Leu Leu Glu Ile Lys Asp Lys Glu Gln Tyr Cys
785 790 795

Ala Leu Ser Pro Gly Leu Leu Ala Thr Asn Asn Val Phe Arg Leu Lys
805 810 815

Gly Gly Ala Pro Ile Lys Gly Val Thr Phe Gly Glu Asp Thr Val Trp
820 825 830

Glu Val Gln Gly Tyr Lys Asn Val Arg Ile Thr Phe Glu Leu Asp Glu
835 840 845

Arg Val Asp Lys Val Leu Asn Glu Lys Cys Ser Val Tyr Thr Val Glu
850 855 860

Ser Gly Thr Glu Val Thr Glu Phe Ala Cys Val Val Ala Glu Ala Val
865 870 875 880

Val Lys Thr Leu Gln Pro Val Ser Asp Leu Leu Thr Asn Met Gly Ile
885 890 895

Asp Leu Asp Glu Trp Ser Val Ala Thr Phe Tyr Leu Phe Asp Asp Ala
900 905 910

Gly Glu Glu Asn Phe Ser Ser Arg Met Tyr Cys Ser Phe Tyr Pro Pro
915 920 925

Asp Glu Glu Glu Glu Asp Asp Ala Glu Cys Glu Glu Glu Glu Ile Asp
930 935 940

Glu Thr Cys Glu His Glu Tyr Gly Thr Glu Asp Asp Tyr Gln Gly Leu
945 950 955 960

Pro Leu Glu Phe Gly Ala Ser Ala Glu Thr Val Arg Val Glu Glu Glu
965 970 975

Glu Glu Glu Asp Trp Leu Asp Asp Thr Thr Glu Gln Ser Glu Ile Glu
980 985 990

Pro Glu Pro Glu Pro Thr Pro Glu Glu Pro Val Asn Gln Phe Thr Gly
995 1000 1005

Tyr Leu Lys Leu Thr Asp Asn Val Ala Ile Lys Cys Val Asp Ile Val
1010 1015 1020

Lys Glu Ala Gln Ser Ala Asn Pro Met Val Ile Val Asn Ala Ala Asn
1025 1030 1035 1040

Ile His Leu Lys His Gly Gly Gly Val Ala Gly Ala Leu Asn Lys Ala
1045 1050 1055

Thr Asn Gly Ala Met Gln Lys Glu Ser Asp Asp Tyr Ile Lys Leu Asn
1060 1065 1070

Gly Pro Leu Thr Val Gly Gly Ser Cys Leu Leu Ser Gly His Asn Leu
1075 1080 1085

Ala Lys Lys Cys Leu His Val Val Gly Pro Asn Leu Asn Ala Gly Glu
1090 1095 1100

SEQLIST-20480.TXT

Asp Ile Gln Leu Leu Lys Ala Ala Tyr Glu Asn Phe Asn Ser Gln Asp
 1105 1110 1115 1120
 Ile Leu Leu Ala Pro Leu Leu Ser Ala Gly Ile Phe Gly Ala Lys Pro
 1125 1130 1135
 Leu Gln Ser Leu Gln Val Cys Val Gln Thr Val Arg Thr Gln Val Tyr
 1140 1145 1150
 Ile Ala Val Asn Asp Lys Ala Leu Tyr Glu Gln Val Val Met Asp Tyr
 1155 1160 1165
 Leu Asp Asn Leu Lys Pro Arg Val Glu Ala Pro Lys Gln Glu Glu Pro
 1170 1175 1180
 Pro Asn Thr Glu Asp Ser Lys Thr Glu Glu Lys Ser Val Val Gln Lys
 1185 1190 1195 1200
 Pro Val Asp Val Lys Pro Lys Ile Lys Ala Cys Ile Asp Glu Val Thr
 1205 1210 1215
 Thr Thr Leu Glu Glu Thr Lys Phe Leu Thr Asn Lys Leu Leu Leu Phe
 1220 1225 1230
 Ala Asp Ile Asn Gly Lys Leu Tyr His Asp Ser Gln Asn Met Leu Arg
 1235 1240 1245
 Gly Glu Asp Met Ser Phe Leu Glu Lys Asp Ala Pro Tyr Met Val Gly
 1250 1255 1260
 Asp Val Ile Thr Ser Gly Asp Ile Thr Cys Val Val Ile Pro Ser Lys
 1265 1270 1275 1280
 Lys Ala Gly Gly Thr Thr Glu Met Leu Ser Arg Ala Leu Lys Lys Val
 1285 1290 1295
 Pro Val Asp Glu Tyr Ile Thr Thr Tyr Pro Gly Gln Gly Cys Ala Gly
 1300 1305 1310
 Tyr Thr Leu Glu Glu Ala Lys Thr Ala Leu Lys Lys Cys Lys Ser Ala
 1315 1320 1325
 Phe Tyr Val Leu Pro Ser Glu Ala Pro Asn Ala Lys Glu Glu Ile Leu
 1330 1335 1340
 Gly Thr Val Ser Trp Asn Leu Arg Glu Met Leu Ala His Ala Glu Glu
 1345 1350 1355 1360
 Thr Arg Lys Leu Met Pro Ile Cys Met Asp Val Arg Ala Ile Met Ala
 1365 1370 1375
 Thr Ile Gln Arg Lys Tyr Lys Gly Ile Lys Ile Gln Glu Gly Ile Val
 1380 1385 1390
 Asp Tyr Gly Val Arg Phe Phe Phe Tyr Thr Ser Lys Glu Pro Val Ala
 1395 1400 1405
 Ser Ile Ile Thr Lys Leu Asn Ser Leu Asn Glu Pro Leu Val Thr Met
 1410 1415 1420
 Pro Ile Gly Tyr Val Thr His Gly Phe Asn Leu Glu Glu Ala Ala Arg
 1425 1430 1435 1440

SEQLIST-20480.TXT

Cys Met Arg Ser Leu Lys Ala Pro Ala Val Val Ser Val Ser Ser Pro
1445 1450 1455

Asp Ala Val Thr Thr Tyr Asn Gly Tyr Leu Thr Ser Ser Ser Lys Thr
1460 1465 1470

Ser Glu Glu His Phe Val Glu Thr Val Ser Leu Ala Gly Ser Tyr Arg
1475 1480 1485

Asp Trp Ser Tyr Ser Gly Gln Arg Thr Glu Leu Gly Val Glu Phe Leu
1490 1495 1500

Lys Arg Gly Asp Lys Ile Val Tyr His Thr Leu Glu Ser Pro Val Glu
1505 1510 1515 1520

Phe His Leu Asp Gly Glu Val Leu Ser Leu Asp Lys Leu Lys Ser Leu
1525 1530 1535

Leu Ser Leu Arg Glu Val Lys Thr Ile Lys Val Phe Thr Thr Val Asp
1540 1545 1550

Asn Thr Asn Leu His Thr Gln Leu Val Asp Met Ser Met Thr Tyr Gly
1555 1560 1565

Gln Gln Phe Gly Pro Thr Tyr Leu Asp Gly Ala Asp Val Thr Lys Ile
1570 1575 1580

Lys Pro His Val Asn His Glu Gly Lys Thr Phe Phe Val Leu Pro Ser
1585 1590 1595 1600

Asp Asp Thr Leu Arg Ser Glu Ala Phe Glu Tyr Tyr His Thr Leu Asp
1605 1610 1615

Glu Ser Phe Leu Gly Arg Tyr Met Ser Ala Leu Asn His Thr Lys Lys
1620 1625 1630

Trp Lys Phe Pro Gln Val Gly Gly Leu Thr Ser Ile Lys Trp Ala Asp
1635 1640 1645

Asn Asn Cys Tyr Leu Ser Ser Val Leu Leu Ala Leu Gln Gln Leu Glu
1650 1655 1660

Val Lys Phe Asn Ala Pro Ala Leu Gln Glu Ala Tyr Tyr Arg Ala Arg
1665 1670 1675 1680

Ala Gly Asp Ala Ala Asn Phe Cys Ala Leu Ile Leu Ala Tyr Ser Asn
1685 1690 1695

Lys Thr Val Gly Glu Leu Gly Asp Val Arg Glu Thr Met Thr His Leu
1700 1705 1710

Leu Gln His Ala Asn Leu Glu Ser Ala Lys Arg Val Leu Asn Val Val
1715 1720 1725

Cys Lys His Cys Gly Gln Lys Thr Thr Thr Leu Thr Gly Val Glu Ala
1730 1735 1740

Val Met Tyr Met Gly Thr Leu Ser Tyr Asp Asn Leu Lys Thr Gly Val
1745 1750 1755 1760

Ser Ile Pro Cys Val Cys Gly Arg Asp Ala Thr Gln Tyr Leu Val Gln
1765 1770 1775

SEQLIST-20480.TXT

Gln Glu Ser Ser Phe Val Met Met Ser Ala Pro Pro Ala Glu Tyr Lys
1780 1785 1790

Leu Gln Gln Gly Thr Phe Leu Cys Ala Asn Glu Tyr Thr Gly Asn Tyr
1795 1800 1805

Gln Cys Gly His Tyr Thr His Ile Thr Ala Lys Glu Thr Leu Tyr Arg
1810 1815 1820

Ile Asp Gly Ala His Leu Thr Lys Met Ser Glu Tyr Lys Gly Pro Val
1825 1830 1835 1840

Thr Asp Val Phe Tyr Lys Glu Thr Ser Tyr Thr Thr Thr Ile Lys Pro
1845 1850 1855

Val Ser Tyr Lys Leu Asp Gly Val Thr Tyr Thr Glu Ile Glu Pro Lys
1860 1865 1870

Leu Asp Gly Tyr Tyr Lys Lys Asp Asn Ala Tyr Tyr Thr Glu Gln Pro
1875 1880 1885

Ile Asp Leu Val Pro Thr Gln Pro Leu Pro Asn Ala Ser Phe Asp Asn
1890 1895 1900

Phe Lys Leu Thr Cys Ser Asn Thr Lys Phe Ala Asp Asp Leu Asn Gln
1905 1910 1915 1920

Met Thr Gly Phe Thr Lys Pro Ala Ser Arg Glu Leu Ser Val Thr Phe
1925 1930 1935

Phe Pro Asp Leu Asn Gly Asp Val Val Ala Ile Asp Tyr Arg His Tyr
1940 1945 1950

Ser Ala Ser Phe Lys Lys Gly Ala Lys Leu Leu His Lys Pro Ile Val
1955 1960 1965

Trp His Ile Asn Gln Ala Thr Thr Lys Thr Thr Phe Lys Pro Asn Thr
1970 1975 1980

Trp Cys Leu Arg Cys Leu Trp Ser Thr Lys Pro Val Asp Thr Ser Asn
1985 1990 1995 2000

Ser Phe Glu Val Leu Ala Val Glu Asp Thr Gln Gly Met Asp Asn Leu
2005 2010 2015

Ala Cys Glu Ser Gln Gln Pro Thr Ser Glu Glu Val Val Glu Asn Pro
2020 2025 2030

Thr Ile Gln Lys Glu Val Ile Glu Cys Asp Val Lys Thr Thr Glu Val
2035 2040 2045

Val Gly Asn Val Ile Leu Lys Pro Ser Asp Glu Gly Val Lys Val Thr
2050 2055 2060

Gln Glu Leu Gly His Glu Asp Leu Met Ala Ala Tyr Val Glu Asn Thr
2065 2070 2075 2080

Ser Ile Thr Ile Lys Lys Pro Asn Glu Leu Ser Leu Ala Leu Gly Leu
2085 2090 2095

Lys Thr Ile Ala Thr His Gly Ile Ala Ala Ile Asn Ser Val Pro Trp
2100 2105 2110

SEQLIST-20480.TXT

Ser Lys Ile Leu Ala Tyr Val Lys Pro Phe Leu Gly Gln Ala Ala Ile
2115 2120 2125

Thr Thr Ser Asn Cys Ala Lys Arg Leu Ala Gln Arg Val Phe Asn Asn
2130 2135 2140

Tyr Met Pro Tyr Val Phe Thr Leu Leu Phe Gln Leu Cys Thr Phe Thr
2145 2150 2155 2160

Lys Ser Thr Asn Ser Arg Ile Arg Ala Ser Leu Pro Thr Thr Ile Ala
2165 2170 2175

Lys Asn Ser Val Lys Ser Val Ala Lys Leu Cys Leu Asp Ala Gly Ile
2180 2185 2190

Asn Tyr Val Lys Ser Pro Lys Phe Ser Lys Leu Phe Thr Ile Ala Met
2195 2200 2205

Trp Leu Leu Leu Leu Ser Ile Cys Leu Gly Ser Leu Ile Cys Val Thr
2210 2215 2220

Ala Ala Phe Gly Val Leu Leu Ser Asn Phe Gly Ala Pro Ser Tyr Cys
2225 2230 2235 2240

Asn Gly Val Arg Glu Leu Tyr Leu Asn Ser Ser Asn Val Thr Thr Met
2245 2250 2255

Asp Phe Cys Glu Gly Ser Phe Pro Cys Ser Ile Cys Leu Ser Gly Leu
2260 2265 2270

Asp Ser Leu Asp Ser Tyr Pro Ala Leu Glu Thr Ile Gln Val Thr Ile
2275 2280 2285

Ser Ser Tyr Lys Leu Asp Leu Thr Ile Leu Gly Leu Ala Ala Glu Trp
2290 2295 2300

Val Leu Ala Tyr Met Leu Phe Thr Lys Phe Phe Tyr Leu Leu Gly Leu
2305 2310 2315 2320

Ser Ala Ile Met Gln Val Phe Phe Gly Tyr Phe Ala Ser His Phe Ile
2325 2330 2335

Ser Asn Ser Trp Leu Met Trp Phe Ile Ile Ser Ile Val Gln Met Ala
2340 2345 2350

Pro Val Ser Ala Met Val Arg Met Tyr Ile Phe Phe Ala Ser Phe Tyr
2355 2360 2365

Tyr Ile Trp Lys Ser Tyr Val His Ile Met Asp Gly Cys Thr Ser Ser
2370 2375 2380

Thr Cys Met Met Cys Tyr Lys Arg Asn Arg Ala Thr Arg Val Glu Cys
2385 2390 2395 2400

Thr Thr Ile Val Asn Gly Met Lys Arg Ser Phe Tyr Val Tyr Ala Asn
2405 2410 2415

Gly Gly Arg Gly Phe Cys Lys Thr His Asn Trp Asn Cys Leu Asn Cys
2420 2425 2430

Asp Thr Phe Cys Thr Gly Ser Thr Phe Ile Ser Asp Glu Val Ala Arg
2435 2440 2445

SEQLIST-20480.TXT

Asp Leu Ser Leu Gln Phe Lys Arg Pro Ile Asn Pro Thr Asp Gln Ser
 2450 2455 2460
 Ser Tyr Ile Val Asp Ser Val Ala Val Lys Asn Gly Ala Leu His Leu
 2465 2470 2475
 Tyr Phe Asp Lys Ala Gly Gln Lys Thr Tyr Glu Arg His Pro Leu Ser
 2485 2490 2495
 His Phe Val Asn Leu Asp Asn Leu Arg Ala Asn Asn Thr Lys Gly Ser
 2500 2505 2510
 Leu Pro Ile Asn Val Ile Val Phe Asp Gly Lys Ser Lys Cys Asp Glu
 2515 2520 2525
 Ser Ala Ser Lys Ser Ala Ser Val Tyr Tyr Ser Gln Leu Met Cys Gln
 2530 2535 2540
 Pro Ile Leu Leu Leu Asp Gln Ala Leu Val Ser Asp Val Gly Asp Ser
 2545 2550 2555 2560
 Thr Glu Val Ser Val Lys Met Phe Asp Ala Tyr Val Asp Thr Phe Ser
 2565 2570 2575
 Ala Thr Phe Ser Val Pro Met Glu Lys Leu Lys Ala Leu Val Ala Thr
 2580 2585 2590
 Ala His Ser Glu Leu Ala Lys Gly Val Ala Leu Asp Gly Val Leu Ser
 2595 2600 2605
 Thr Phe Val Ser Ala Ala Arg Gln Gly Val Val Asp Thr Asp Val Asp
 2610 2615 2620
 Thr Lys Asp Val Ile Glu Cys Leu Lys Leu Ser His His Ser Asp Leu
 2625 2630 2635 2640
 Glu Val Thr Gly Asp Ser Cys Asn Asn Phe Met Leu Thr Tyr Asn Lys
 2645 2650 2655
 Val Glu Asn Met Thr Pro Arg Asp Leu Gly Ala Cys Ile Asp Cys Asn
 2660 2665 2670
 Ala Arg His Ile Asn Ala Gln Val Ala Lys Ser His Asn Val Ser Leu
 2675 2680 2685
 Ile Trp Asn Val Lys Asp Tyr Met Ser Leu Ser Glu Gln Leu Arg Lys
 2690 2695 2700
 Gln Ile Arg Ser Ala Ala Lys Lys Asn Asn Ile Pro Phe Arg Leu Thr
 2705 2710 2715 2720
 Cys Ala Thr Thr Arg Gln Val Val Asn Val Ile Thr Thr Lys Ile Ser
 2725 2730 2735
 Leu Lys Gly Gly Lys Ile Val Ser Thr Cys Phe Lys Leu Met Leu Lys
 2740 2745 2750
 Ala Thr Leu Leu Cys Val Leu Ala Ala Leu Val Cys Tyr Ile Val Met
 2755 2760 2765
 Pro Val His Thr Leu Ser Ile His Asp Gly Tyr Thr Asn Glu Ile Ile
 2770 2775 2780

SEQLIST-20480.TXT

Gly Tyr Lys Ala Ile Gln Asp Gly Val Thr Arg Asp Ile Ile Ser Thr
2785 2790 2795 2800
Asp Asp Cys Phe Ala Asn Lys His Ala Gly Phe Asp Ala Trp Phe Ser
2805 2810 2815
Gln Arg Gly Gly Ser Tyr Lys Asn Asp Lys Ser Cys Pro Val Val Ala
2820 2825 2830
Ala Ile Ile Thr Arg Glu Ile Gly Phe Ile Val Pro Gly Leu Pro Gly
2835 2840 2845
Thr Val Leu Arg Ala Ile Asn Gly Asp Phe Leu His Phe Leu Pro Arg
2850 2855 2860
Val Phe Ser Ala Val Gly Asn Ile Cys Tyr Thr Pro Ser Lys Leu Ile
2865 2870 2875 2880
Glu Tyr Ser Asp Phe Ala Thr Ser Ala Cys Val Leu Ala Ala Glu Cys
2885 2890 2895
Thr Ile Phe Lys Asp Ala Met Gly Lys Pro Val Pro Tyr Cys Tyr Asp
2900 2905 2910
Thr Asn Leu Leu Glu Gly Ser Ile Ser Tyr Ser Glu Leu Arg Pro Asp
2915 2920 2925
Thr Arg Tyr Val Leu Met Asp Gly Ser Ile Ile Gln Phe Pro Asn Thr
2930 2935 2940
Tyr Leu Glu Gly Ser Val Arg Val Val Thr Thr Phe Asp Ala Glu Tyr
2945 2950 2955 2960
Cys Arg His Gly Thr Cys Glu Arg Ser Glu Val Gly Ile Cys Leu Ser
2965 2970 2975
Thr Ser Gly Arg Trp Val Leu Asn Asn Glu His Tyr Arg Ala Leu Ser
2980 2985 2990
Gly Val Phe Cys Gly Val Asp Ala Met Asn Leu Ile Ala Asn Ile Phe
2995 3000 3005
Thr Pro Leu Val Gln Pro Val Gly Ala Leu Asp Val Ser Ala Ser Val
3010 3015 3020
Val Ala Gly Gly Ile Ile Ala Ile Leu Val Thr Cys Ala Ala Tyr Tyr
3025 3030 3035 3040
Phe Met Lys Phe Arg Arg Val Phe Gly Glu Tyr Asn His Val Val Ala
3045 3050 3055
Ala Asn Ala Leu Leu Phe Leu Met Ser Phe Thr Ile Leu Cys Leu Val
3060 3065 3070
Pro Ala Tyr Ser Phe Leu Pro Gly Val Tyr Ser Val Phe Tyr Leu Tyr
3075 3080 3085
Leu Thr Phe Tyr Phe Thr Asn Asp Val Ser Phe Leu Ala His Leu Gln
3090 3095 3100
Trp Phe Ala Met Phe Ser Pro Ile Val Pro Phe Trp Ile Thr Ala Ile
3105 3110 3115 3120

SEQLIST-20480.TXT

Tyr Val Phe Cys Ile Ser Leu Lys His Cys His Trp Phe Phe Asn Asn
3125 3130 3135

Tyr Leu Arg Lys Arg Val Met Phe Asn Gly Val Thr Phe Ser Thr Phe
3140 3145 3150

Glu Glu Ala Ala Leu Cys Thr Phe Leu Leu Asn Lys Glu Met Tyr Leu
3155 3160 3165

Lys Leu Arg Ser Glu Thr Leu Leu Pro Leu Thr Gln Tyr Asn Arg Tyr
3170 3175 3180

Leu Ala Leu Tyr Asn Lys Tyr Lys Tyr Phe Ser Gly Ala Leu Asp Thr
3185 3190 3195 3200

Thr Ser Tyr Arg Glu Ala Ala Cys Cys His Leu Ala Lys Ala Leu Asn
3205 3210 3215

Asp Phe Ser Asn Ser Gly Ala Asp Val Leu Tyr Gln Pro Pro Gln Thr
3220 3225 3230

Ser Ile Thr Ser Ala Val Leu Gln Ser Gly Phe Arg Lys Met Ala Phe
3235 3240 3245

Pro Ser Gly Lys Val Glu Gly Cys Met Val Gln Val Thr Cys Gly Thr
3250 3255 3260

Thr Thr Leu Asn Gly Leu Trp Leu Asp Asp Thr Val Tyr Cys Pro Arg
3265 3270 3275 3280

His Val Ile Cys Thr Ala Glu Asp Met Leu Asn Pro Asn Tyr Glu Asp
3285 3290 3295

Leu Leu Ile Arg Lys Ser Asn His Ser Phe Leu Val Gln Ala Gly Asn
3300 3305 3310

Val Gln Leu Arg Val Ile Gly His Ser Met Gln Asn Cys Leu Leu Arg
3315 3320 3325

Leu Lys Val Asp Thr Ser Asn Pro Lys Thr Pro Lys Tyr Lys Phe Val
3330 3335 3340

Arg Ile Gln Pro Gly Gln Thr Phe Ser Val Leu Ala Cys Tyr Asn Gly
3345 3350 3355 3360

Ser Pro Ser Gly Val Tyr Gln Cys Ala Met Arg Pro Asn His Thr Ile
3365 3370 3375

Lys Gly Ser Phe Leu Asn Gly Ser Cys Gly Ser Val Gly Phe Asn Ile
3380 3385 3390

Asp Tyr Asp Cys Val Ser Phe Cys Tyr Met His His Met Glu Leu Pro
3395 3400 3405

Thr Gly Val His Ala Gly Thr Asp Leu Glu Gly Lys Phe Tyr Gly Pro
3410 3415 3420

Phe Val Asp Arg Gln Thr Ala Gln Ala Ala Gly Thr Asp Thr Thr Ile
3425 3430 3435 3440

Thr Leu Asn Val Leu Ala Trp Leu Tyr Ala Ala Val Ile Asn Gly Asp
3445 3450 3455

SEQLIST-20480.TXT

Arg Trp Phe Leu Asn Arg Phe Thr Thr Thr Leu Asn Asp Phe Asn Leu
3460 3465 3470

Val Ala Met Lys Tyr Asn Tyr Glu Pro Leu Thr Gln Asp His Val Asp
3475 3480 3485

Ile Leu Gly Pro Leu Ser Ala Gln Thr Gly Ile Ala Val Leu Asp Met
3490 3495 3500

Cys Ala Ala Leu Lys Glu Leu Leu Gln Asn Gly Met Asn Gly Arg Thr
3505 3510 3515 3520

Ile Leu Gly Ser Thr Ile Leu Glu Asp Glu Phe Thr Pro Phe Asp Val
3525 3530 3535

Val Arg Gln Cys Ser Gly Val Thr Phe Gln Gly Lys Phe Lys Lys Ile
3540 3545 3550

Val Lys Gly Thr His His Trp Met Leu Leu Thr Phe Leu Thr Ser Leu
3555 3560 3565

Leu Ile Leu Val Gln Ser Thr Gln Trp Ser Leu Phe Phe Phe Val Tyr
3570 3575 3580

Glu Asn Ala Phe Leu Pro Phe Thr Leu Gly Ile Met Ala Ile Ala Ala
3585 3590 3595 3600

Cys Ala Met Leu Leu Val Lys His Lys His Ala Phe Leu Cys Leu Phe
3605 3610 3615

Leu Leu Pro Ser Leu Ala Thr Val Ala Tyr Phe Asn Met Val Tyr Met
3620 3625 3630

Pro Ala Ser Trp Val Met Arg Ile Met Thr Trp Leu Glu Leu Ala Asp
3635 3640 3645

Thr Ser Leu Ser Gly Tyr Arg Leu Lys Asp Cys Val Met Tyr Ala Ser
3650 3655 3660

Ala Leu Val Leu Leu Ile Leu Met Thr Ala Arg Thr Val Tyr Asp Asp
3665 3670 3675 3680

Ala Ala Arg Arg Val Trp Thr Leu Met Asn Val Ile Thr Leu Val Tyr
3685 3690 3695

Lys Val Tyr Tyr Gly Asn Ala Leu Asp Gln Ala Ile Ser Met Trp Ala
3700 3705 3710

Leu Val Ile Ser Val Thr Ser Asn Tyr Ser Gly Val Val Thr Thr Ile
3715 3720 3725

Met Phe Leu Ala Arg Ala Ile Val Phe Val Cys Val Glu Tyr Tyr Pro
3730 3735 3740

Leu Leu Phe Ile Thr Gly Asn Thr Leu Gln Cys Ile Met Leu Val Tyr
3745 3750 3755 3760

Cys Phe Leu Gly Tyr Cys Cys Cys Cys Tyr Phe Gly Leu Phe Cys Leu
3765 3770 3775

Leu Asn Arg Tyr Phe Arg Leu Thr Leu Gly Val Tyr Asp Tyr Leu Val
3780 3785 3790

SEQLIST-20480.TXT

Ser Thr Gln Glu Phe Arg Tyr Met Asn Ser Gln Gly Leu Leu Pro Pro
3795 3800 3805

Lys Ser Ser Ile Asp Ala Phe Lys Leu Asn Ile Lys Leu Leu Gly Ile
3810 3815 3820

Gly Gly Lys Pro Cys Ile Lys Val Ala Thr Val Gln Ser Lys Met Ser
3825 3830 3835 3840

Asp Val Lys Cys Thr Ser Val Val Leu Leu Ser Val Leu Gln Gln Leu
3845 3850 3855

Arg Val Glu Ser Ser Ser Lys Leu Trp Ala Gln Cys Val Gln Leu His
3860 3865 3870

Asn Asp Ile Leu Leu Ala Lys Asp Thr Thr Glu Ala Phe Glu Lys Met
3875 3880 3885

Val Ser Leu Leu Ser Val Leu Leu Ser Met Gln Gly Ala Val Asp Ile
3890 3895 3900

Asn Arg Leu Cys Glu Glu Met Leu Asp Asn Arg Ala Thr Leu Gln Ala
3905 3910 3915 3920

Ile Ala Ser Glu Phe Ser Ser Leu Pro Ser Tyr Ala Ala Tyr Ala Thr
3925 3930 3935

Ala Gln Glu Ala Tyr Glu Gln Ala Val Ala Asn Gly Asp Ser Glu Val
3940 3945 3950

Val Leu Lys Lys Leu Lys Lys Ser Leu Asn Val Ala Lys Ser Glu Phe
3955 3960 3965

Asp Arg Asp Ala Ala Met Gln Arg Lys Leu Glu Lys Met Ala Asp Gln
3970 3975 3980

Ala Met Thr Gln Met Tyr Lys Gln Ala Arg Ser Glu Asp Lys Arg Ala
3985 3990 3995 4000

Lys Val Thr Ser Ala Met Gln Thr Met Leu Phe Thr Met Leu Arg Lys
4005 4010 4015

Leu Asp Asn Asp Ala Leu Asn Asn Ile Ile Asn Asn Ala Arg Asp Gly
4020 4025 4030

Cys Val Pro Leu Asn Ile Ile Pro Leu Thr Thr Ala Ala Lys Leu Met
4035 4040 4045

Val Val Val Pro Asp Tyr Gly Thr Tyr Lys Asn Thr Cys Asp Gly Asn
4050 4055 4060

Thr Phe Thr Tyr Ala Ser Ala Leu Trp Glu Ile Gln Gln Val Val Asp
4065 4070 4075 4080

Ala Asp Ser Lys Ile Val Gln Leu Ser Glu Ile Asn Met Asp Asn Ser
4085 4090 4095

Pro Asn Leu Ala Trp Pro Leu Ile Val Thr Ala Leu Arg Ala Asn Ser
4100 4105 4110

Ala Val Lys Leu Gln Asn Asn Glu Leu Ser Pro Val Ala Leu Arg Gln
4115 4120 4125

SEQLIST-20480.TXT

Met Ser Cys Ala Ala Gly Thr Thr Gln Thr Ala Cys Thr Asp Asp Asn
4130 4135 4140

Ala Leu Ala Tyr Tyr Asn Asn Ser Lys Gly Gly Arg Phe Val Leu Ala
4145 4150 4155 4160

Leu Leu Ser Asp His Gln Asp Leu Lys Trp Ala Arg Phe Pro Lys Ser
4165 4170 4175

Asp Gly Thr Gly Thr Ile Tyr Thr Glu Leu Glu Pro Pro Cys Arg Phe
4180 4185 4190

Val Thr Asp Thr Pro Lys Gly Pro Lys Val Lys Tyr Leu Tyr Phe Ile
4195 4200 4205

Lys Gly Leu Asn Asn Leu Asn Arg Gly Met Val Leu Gly Ser Leu Ala
4210 4215 4220

Ala Thr Val Arg Leu Gln Ala Gly Asn Ala Thr Glu Val Pro Ala Asn
4225 4230 4235 4240

Ser Thr Val Leu Ser Phe Cys Ala Phe Ala Val Asp Pro Ala Lys Ala
4245 4250 4255

Tyr Lys Asp Tyr Leu Ala Ser Gly Gly Gln Pro Ile Thr Asn Cys Val
4260 4265 4270

Lys Met Leu Cys Thr His Thr Gly Thr Gly Gln Ala Ile Thr Val Thr
4275 4280 4285

Pro Glu Ala Asn Met Asp Gln Glu Ser Phe Gly Gly Ala Ser Cys Cys
4290 4295 4300

Leu Tyr Cys Arg Cys His Ile Asp His Pro Asn Pro Lys Gly Phe Cys
4305 4310 4315 4320

Asp Leu Lys Gly Lys Tyr Val Gln Ile Pro Thr Thr Cys Ala Asn Asp
4325 4330 4335

Pro Val Gly Phe Thr Leu Arg Asn Thr Val Cys Thr Val Cys Gly Met
4340 4345 4350

Trp Lys Gly Tyr Gly Cys Ser Cys Asp Gln Leu Arg Glu Pro Leu Met
4355 4360 4365

Gln Ser Ala Asp Ala Ser Thr Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
4370 4375 4380

Xaa Gly Val Ser Ala Ala Arg Leu Thr Pro Cys Gly Thr Gly Thr Ser
4385 4390 4395 4400

Thr Asp Val Val Tyr Arg Ala Phe Asp Ile Tyr Asn Glu Lys Val Ala
4405 4410 4415

Gly Phe Ala Lys Phe Leu Lys Thr Asn Cys Cys Arg Phe Gln Glu Lys
4420 4425 4430

Asp Glu Glu Gly Asn Leu Leu Asp Ser Tyr Phe Val Val Lys Arg His
4435 4440 4445

Thr Met Ser Asn Tyr Gln His Glu Glu Thr Ile Tyr Asn Leu Val Lys
4450 4455 4460

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Asp Cys Pro Ala Val Ala Val His Asp Phe Phe Lys Phe Arg Val Asp
 4465 4470 4475 4480
 Gly Asp Met Val Pro His Ile Ser Arg Gln Arg Leu Thr Lys Tyr Thr
 4485 4490 4495
 Met Ala Asp Leu Val Tyr Ala Leu Arg His Phe Asp Glu Gly Asn Cys
 4500 4505 4510
 Asp Thr Leu Lys Glu Ile Leu Val Thr Tyr Asn Cys Cys Asp Asp Asp
 4515 4520 4525
 Tyr Phe Asn Lys Lys Asp Trp Tyr Asp Phe Val Glu Asn Pro Asp Ile
 4530 4535 4540
 Leu Arg Val Tyr Ala Asn Leu Gly Glu Arg Val Arg Gln Ser Leu Leu
 4545 4550 4555 4560
 Lys Thr Val Gln Phe Cys Asp Ala Met Arg Asp Ala Gly Ile Val Gly
 4565 4570 4575
 Val Leu Thr Leu Asp Asn Gln Asp Leu Asn Gly Asn Trp Tyr Asp Phe
 4580 4585 4590
 Gly Asp Phe Val Gln Val Ala Pro Gly Cys Gly Val Pro Ile Val Asp
 4595 4600 4605
 Ser Tyr Tyr Ser Leu Leu Met Pro Ile Leu Thr Leu Thr Arg Ala Leu
 4610 4615 4620
 Ala Ala Glu Ser His Met Asp Ala Asp Leu Ala Lys Pro Leu Ile Lys
 4625 4630 4635 4640
 Trp Asp Leu Leu Lys Tyr Asp Phe Thr Glu Glu Arg Leu Cys Leu Phe
 4645 4650 4655
 Asp Arg Tyr Phe Lys Tyr Trp Asp Gln Thr Tyr His Pro Asn Cys Ile
 4660 4665 4670
 Asn Cys Leu Asp Asp Arg Cys Ile Leu His Cys Ala Asn Phe Asn Val
 4675 4680 4685
 Leu Phe Ser Thr Val Phe Pro Pro Thr Ser Phe Gly Pro Leu Val Arg
 4690 4695 4700
 Lys Ile Phe Val Asp Gly Val Pro Phe Val Val Ser Thr Gly Tyr His
 4705 4710 4715 4720
 Phe Arg Glu Leu Gly Val Val His Asn Gln Asp Val Asn Leu His Ser
 4725 4730 4735
 Ser Arg Leu Ser Phe Lys Glu Leu Leu Val Tyr Ala Ala Asp Pro Ala
 4740 4745 4750
 Met His Ala Ala Ser Gly Asn Leu Leu Leu Asp Lys Arg Thr Thr Cys
 4755 4760 4765
 Phe Ser Val Ala Ala Leu Thr Asn Asn Val Ala Phe Gln Thr Val Lys
 4770 4775 4780
 Pro Gly Asn Phe Asn Lys Asp Phe Tyr Asp Phe Ala Val Ser Lys Gly
 4785 4790 4795 4800

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Phe Phe Lys Glu Gly Ser Ser Val Glu Leu Lys His Phe Phe Ala
4805 4810 4815

Gln Asp Gly Asn Ala Ala Ile Ser Asp Tyr Asp Tyr Tyr Arg Tyr Asn
4820 4825 4830

Leu Pro Thr Met Cys Asp Ile Arg Gln Leu Leu Phe Val Val Glu Val
4835 4840 4845

Val Asp Lys Tyr Phe Asp Cys Tyr Asp Gly Gly Cys Ile Asn Ala Asn
4850 4855 4860

Gln Val Ile Val Asn Asn Leu Asp Lys Ser Ala Gly Phe Pro Phe Asn
4865 4870 4880

Lys Trp Gly Lys Ala Arg Leu Tyr Tyr Asp Ser Met Ser Tyr Glu Asp
4885 4890 4895

Gln Asp Ala Leu Phe Ala Tyr Thr Lys Arg Asn Val Ile Pro Thr Ile
4900 4905 4910

Thr Gln Met Asn Leu Lys Tyr Ala Ile Ser Ala Lys Asn Arg Ala Arg
4915 4920 4925

Thr Val Ala Gly Val Ser Ile Cys Ser Thr Met Thr Asn Arg Gln Phe
4930 4935 4940

His Gln Lys Leu Leu Lys Ser Ile Ala Ala Thr Arg Gly Ala Thr Val
4945 4950 4955 4960

Val Ile Gly Thr Ser Lys Phe Tyr Gly Gly Trp His Asn Met Leu Lys
4965 4970 4975

Thr Val Tyr Ser Asp Val Glu Thr Pro His Leu Met Gly Trp Asp Tyr
4980 4985 4990

Pro Lys Cys Asp Arg Ala Met Pro Asn Met Leu Arg Ile Met Ala Ser
4995 5000 5005

Leu Val Leu Ala Arg Lys His Asn Thr Cys Cys Asn Leu Ser His Arg
5010 5015 5020

Phe Tyr Arg Leu Ala Asn Glu Cys Ala Gln Val Leu Ser Glu Met Val
5025 5030 5035 5040

Met Cys Gly Gly Ser Leu Tyr Val Lys Pro Gly Gly Thr Ser Ser Gly
5045 5050 5055

Asp Ala Thr Thr Ala Tyr Ala Asn Ser Val Phe Asn Ile Cys Gln Ala
5060 5065 5070

Val Thr Ala Asn Val Asn Ala Leu Leu Ser Thr Asp Gly Asn Lys Ile
5075 5080 5085

Ala Asp Lys Tyr Val Arg Asn Leu Gln His Arg Leu Tyr Glu Cys Leu
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Tyr Arg Asn Arg Asp Val Asp His Glu Phe Val Asp Glu Phe Tyr Ala
5105 5110 5115 5120

Tyr Leu Arg Lys His Phe Ser Met Met Ile Leu Ser Asp Asp Ala Val
5125 5130 5135

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Val Cys Tyr Asn Ser Asn Tyr Ala Ala Gln Gly Leu Val Ala Ser Ile
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Lys Asn Phe Lys Ala Val Leu Tyr Tyr Gln Asn Asn Val Phe Met Ser
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Glu Ala Lys Cys Trp Thr Glu Thr Asp Leu Thr Lys Gly Pro His Glu
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Phe Cys Ser Gln His Thr Met Leu Val Lys Gln Gly Asp Asp Tyr Val
5185 5190 5195 5200

Tyr Leu Pro Tyr Pro Asp Pro Ser Arg Ile Leu Gly Ala Gly Cys Phe
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Val Asp Asp Ile Val Lys Thr Asp Gly Thr Leu Met Ile Glu Arg Phe
5220 5225 5230

Val Ser Leu Ala Ile Asp Ala Tyr Pro Leu Thr Lys His Pro Asn Gln
5235 5240 5245

Glu Tyr Ala Asp Val Phe His Leu Tyr Leu Gln Tyr Ile Arg Lys Leu
5250 5255 5260

His Asp Glu Leu Thr Gly His Met Leu Asp Met Tyr Ser Val Met Leu
5265 5270 5275 5280

Thr Asn Asp Asn Thr Ser Arg Tyr Trp Glu Pro Glu Phe Tyr Glu Ala
5285 5290 5295

Met Tyr Thr Pro His Thr Val Leu Gln Ala Val Gly Ala Cys Val Leu
5300 5305 5310

Cys Asn Ser Gln Thr Ser Leu Arg Cys Gly Ala Cys Ile Arg Arg Pro
5315 5320 5325

Phe Leu Cys Cys Lys Cys Cys Tyr Asp His Val Ile Ser Thr Ser His
5330 5335 5340

Lys Leu Val Leu Ser Val Asn Pro Tyr Val Cys Asn Ala Pro Gly Cys
5345 5350 5355 5360

Asp Val Thr Asp Val Thr Gln Leu Tyr Leu Gly Gly Met Ser Tyr Tyr
5365 5370 5375

Cys Lys Ser His Lys Pro Pro Ile Ser Phe Pro Leu Cys Ala Asn Gly
5380 5385 5390

Gln Val Phe Gly Leu Tyr Lys Asn Thr Cys Val Gly Ser Asp Asn Val
5395 5400 5405

Thr Asp Phe Asn Ala Ile Ala Thr Cys Asp Trp Thr Asn Ala Gly Asp
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Tyr Ile Leu Ala Asn Thr Cys Thr Glu Arg Leu Lys Leu Phe Ala Ala
5425 5430 5435 5440

Glu Thr Leu Lys Ala Thr Glu Glu Thr Phe Lys Leu Ser Tyr Gly Ile
5445 5450 5455

Ala Thr Val Arg Glu Val Leu Ser Asp Arg Glu Leu His Leu Ser Trp
5460 5465 5470

SEQLIST-20480.TXT

Glu Val Gly Lys Pro Arg Pro Pro Leu Asn Arg Asn Tyr Val Phe Thr
5475 5480 5485

Gly Tyr Arg Val Thr Lys Asn Ser Lys Val Gln Ile Gly Glu Tyr Thr
5490 5495 5500

Phe Glu Lys Gly Asp Tyr Gly Asp Ala Val Val Tyr Arg Gly Thr Thr
5505 5510 5515 5520

Thr Tyr Lys Leu Asn Val Gly Asp Tyr Phe Val Leu Thr Ser His Thr
5525 5530 5535

Val Met Pro Leu Ser Ala Pro Thr Leu Val Pro Gln Glu His Tyr Val
5540 5545 5550

Arg Ile Thr Gly Leu Tyr Pro Thr Leu Asn Ile Ser Asp Glu Phe Ser
5555 5560 5565

Ser Asn Val Ala Asn Tyr Gln Lys Val Gly Met Gln Lys Tyr Ser Thr
5570 5575 5580

Leu Gln Gly Pro Pro Gly Thr Gly Lys Ser His Phe Ala Ile Gly Leu
5585 5590 5595 5600

Ala Leu Tyr Tyr Pro Ser Ala Arg Ile Val Tyr Thr Ala Cys Ser His
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Ala Ala Val Asp Ala Leu Cys Glu Lys Ala Leu Lys Tyr Leu Pro Ile
5620 5625 5630

Asp Lys Cys Ser Arg Ile Ile Pro Ala Arg Ala Arg Val Glu Cys Phe
5635 5640 5645

Asp Lys Phe Lys Val Asn Ser Thr Leu Glu Gln Tyr Val Phe Cys Thr
5650 5655 5660

Val Asn Ala Leu Pro Glu Thr Thr Ala Asp Ile Val Val Phe Asp Glu
5665 5670 5675 5680

Ile Ser Met Ala Thr Asn Tyr Asp Leu Ser Val Val Asn Ala Arg Leu
5685 5690 5695

Arg Ala Lys His Tyr Val Tyr Ile Gly Asp Pro Ala Gln Leu Pro Ala
5700 5705 5710

Pro Arg Thr Leu Leu Thr Lys Gly Thr Leu Glu Pro Glu Tyr Phe Asn
5715 5720 5725

Ser Val Cys Arg Leu Met Lys Thr Ile Gly Pro Asp Met Phe Leu Gly
5730 5735 5740

Thr Cys Arg Arg Cys Pro Ala Glu Ile Val Asp Thr Val Ser Ala Leu
5745 5750 5755 5760

Val Tyr Asp Asn Lys Leu Lys Ala His Lys Asp Lys Ser Ala Gln Cys
5765 5770 5775

Phe Lys Met Phe Tyr Lys Gly Val Ile Thr His Asp Val Ser Ser Ala
5780 5785 5790

Ile Asn Arg Pro Gln Ile Gly Val Val Arg Glu Phe Leu Thr Arg Asn
5795 5800 5805

SEQLIST-20480.TXT

Pro Ala Trp Arg Lys Ala Val Phe Ile Ser Pro Tyr Asn Ser Gln Asn
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Ala Val Ala Ser Lys Ile Leu Gly Leu Pro Thr Gln Thr Val Asp Ser
5825 5830 5835 5840

Ser Gln Gly Ser Glu Tyr Asp Tyr Val Ile Phe Thr Gln Thr Thr Glu
5845 5850 5855

Thr Ala His Ser Cys Asn Val Asn Arg Phe Asn Val Ala Ile Thr Arg
5860 5865 5870

Ala Lys Ile Gly Ile Leu Cys Ile Met Ser Asp Arg Asp Leu Tyr Asp
5875 5880 5885

Lys Leu Gln Phe Thr Ser Leu Glu Ile Pro Arg Arg Asn Val Ala Thr
5890 5895 5900

Leu Gln Ala Glu Asn Val Thr Gly Leu Phe Lys Asp Cys Ser Lys Ile
5905 5910 5915 5920

Ile Thr Gly Leu His Pro Thr Gln Ala Pro Thr His Leu Ser Val Asp
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Ile Lys Phe Lys Thr Glu Gly Leu Cys Val Asp Ile Pro Gly Ile Pro
5940 5945 5950

Lys Asp Met Thr Tyr Arg Arg Leu Ile Ser Met Met Gly Phe Lys Met
5955 5960 5965

Asn Tyr Gln Val Asn Gly Tyr Pro Asn Met Phe Ile Thr Arg Glu Glu
5970 5975 5980

Ala Ile Arg His Val Arg Ala Trp Ile Gly Phe Asp Val Glu Gly Cys
5985 5990 5995 6000

His Ala Thr Arg Asp Ala Val Gly Thr Asn Leu Pro Leu Gln Leu Gly
6005 6010 6015

Phe Ser Thr Gly Val Asn Leu Val Ala Val Pro Thr Gly Tyr Val Asp
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Thr Glu Asn Asn Thr Glu Phe Thr Arg Val Asn Ala Lys Pro Pro Pro
6035 6040 6045

Gly Asp Gln Phe Lys His Leu Ile Pro Leu Met Tyr Lys Gly Leu Pro
6050 6055 6060

Trp Asn Val Val Arg Ile Lys Ile Val Gln Met Leu Ser Asp Thr Leu
6065 6070 6075 6080

Lys Gly Leu Ser Asp Arg Val Val Phe Val Leu Trp Ala His Gly Phe
6085 6090 6095

Glu Leu Thr Ser Met Lys Tyr Phe Val Lys Ile Gly Pro Glu Arg Thr
6100 6105 6110

Cys Cys Leu Cys Asp Lys Arg Ala Thr Cys Phe Ser Thr Ser Ser Asp
6115 6120 6125

Thr Tyr Ala Cys Trp Asn His Ser Val Gly Phe Asp Tyr Val Tyr Asn
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SEQLIST-20480.TXT

Pro Phe Met Ile Asp Val Gln Gln Trp Gly Phe Thr Gly Asn Leu Gln
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Ser Asn His Asp Gln His Cys Gln Val His Gly Asn Ala His Val Ala
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Ser Cys Asp Ala Ile Met Thr Arg Cys Leu Ala Val His Glu Cys Phe
6180 6185 6190

Val Lys Arg Val Asp Trp Ser Val Glu Tyr Pro Ile Ile Gly Asp Glu
6195 6200 6205

Leu Arg Val Asn Ser Ala Cys Arg Lys Val Gln His Met Val Val Lys
6210 6215 6220

Ser Ala Leu Leu Ala Asp Lys Phe Pro Val Leu His Asp Ile Gly Asn
6225 6230 6235 6240

Pro Lys Ala Ile Lys Cys Val Pro Gln Ala Glu Val Glu Trp Lys Phe
6245 6250 6255

Tyr Asp Ala Gln Pro Cys Ser Asp Lys Ala Tyr Lys Ile Glu Glu Leu
6260 6265 6270

Phe Tyr Ser Tyr Ala Thr His His Asp Lys Phe Thr Asp Gly Val Cys
6275 6280 6285

Leu Phe Trp Asn Cys Asn Val Asp Arg Tyr Pro Ala Asn Ala Ile Val
6290 6295 6300

Cys Arg Phe Asp Thr Arg Val Leu Ser Asn Leu Asn Leu Pro Gly Cys
6305 6310 6315 6320

Asp Gly Gly Ser Leu Tyr Val Asn Lys His Ala Phe His Thr Pro Ala
6325 6330 6335

Phe Asp Lys Ser Ala Phe Thr Asn Leu Lys Gln Leu Pro Phe Phe Tyr
6340 6345 6350

Tyr Ser Asp Ser Pro Cys Glu Ser His Gly Lys Gln Val Val Ser Asp
6355 6360 6365

Ile Asp Tyr Val Pro Leu Lys Ser Ala Thr Cys Ile Thr Arg Cys Asn
6370 6375 6380

Leu Gly Gly Ala Val Cys Arg His His Ala Asn Glu Tyr Arg Gln Tyr
6385 6390 6395 6400

Leu Asp Ala Tyr Asn Met Met Ile Ser Ala Gly Phe Ser Leu Trp Ile
6405 6410 6415

Tyr Lys Gln Phe Asp Thr Tyr Asn Leu Trp Asn Thr Phe Thr Arg Leu
6420 6425 6430

Gln Ser Leu Glu Asn Val Ala Tyr Asn Val Val Asn Lys Gly His Phe
6435 6440 6445

Asp Gly His Ala Gly Glu Ala Pro Val Ser Ile Ile Asn Asn Ala Val
6450 6455 6460

Tyr Thr Lys Val Asp Gly Ile Asp Val Glu Ile Phe Glu Asn Lys Thr
6465 6470 6475 6480

SEQLIST-20480.TXT

Thr Leu Pro Val Asn Val Ala Phe Glu Leu Trp Ala Lys Arg Asn Ile
6485 6490 6495

Lys Pro Val Pro Glu Ile Lys Ile Leu Asn Asn Leu Gly Val Asp Ile
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Ala Ala Asn Thr Val Ile Trp Asp Tyr Lys Arg Glu Ala Pro Ala His
6515 6520 6525

Val Ser Thr Ile Gly Val Cys Thr Met Thr Asp Ile Ala Lys Lys Pro
6530 6535 6540

Thr Glu Ser Ala Cys Ser Ser Leu Thr Val Leu Phe Asp Gly Arg Val
6545 6550 6555 6560

Glu Gly Gln Val Asp Leu Phe Arg Asn Ala Arg Asn Gly Val Leu Ile
6565 6570 6575

Thr Glu Gly Ser Val Lys Gly Leu Thr Pro Ser Lys Gly Pro Ala Gln
6580 6585 6590

Ala Ser Val Asn Gly Val Thr Leu Ile Gly Glu Ser Val Lys Thr Gln
6595 6600 6605

Phe Asn Tyr Phe Lys Lys Val Asp Gly Ile Ile Gln Gln Leu Pro Glu
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Thr Tyr Phe Thr Gln Ser Arg Asp Leu Glu Asp Phe Lys Pro Arg Ser
6625 6630 6635 6640

Gln Met Glu Thr Asp Phe Leu Glu Leu Ala Met Asp Glu Phe Ile Gln
6645 6650 6655

Arg Tyr Lys Leu Glu Gly Tyr Ala Phe Glu His Ile Val Tyr Gly Asp
6660 6665 6670

Phe Ser His Gly Gln Leu Gly Gly Leu His Leu Met Ile Gly Leu Ala
6675 6680 6685

Lys Arg Ser Gln Asp Ser Pro Leu Lys Leu Glu Asp Phe Ile Pro Met
6690 6695 6700

Asp Ser Thr Val Lys Asn Tyr Phe Ile Thr Asp Ala Gln Thr Gly Ser
6705 6710 6715 6720

Ser Lys Cys Val Cys Ser Val Ile Asp Leu Leu Leu Asp Asp Phe Val
6725 6730 6735

Glu Ile Ile Lys Ser Gln Asp Leu Ser Val Ile Ser Lys Val Val Lys
6740 6745 6750

Val Thr Ile Asp Tyr Ala Glu Ile Ser Phe Met Leu Trp Cys Lys Asp
6755 6760 6765

Gly His Val Glu Thr Phe Tyr Pro Lys Leu Gln Ala Ser Arg Ala Trp
6770 6775 6780

Gln Pro Gly Val Ala Met Pro Asn Leu Tyr Lys Met Gln Arg Met Leu
6785 6790 6795 6800

Leu Glu Lys Cys Asp Leu Gln Asn Tyr Gly Glu Asn Ala Val Ile Pro
6805 6810 6815

SEQLIST-20480.TXT

Lys Gly Ile Met Met Asn Val Ala Lys Tyr Thr Gln Leu Cys Gln Tyr
6820 6825 6830

Leu Asn Thr Leu Thr Leu Ala Val Pro Tyr Asn Met Arg Val Ile His
6835 6840 6845

Phe Gly Ala Gly Ser Asp Lys Gly Val Ala Pro Gly Thr Ala Val Leu
6850 6855 6860

Arg Gln Trp Leu Pro Thr Gly Thr Leu Leu Val Asp Ser Asp Leu Asn
6865 6870 6875 6880

Asp Phe Val Ser Asp Ala Tyr Ser Thr Leu Ile Gly Asp Cys Ala Thr
6885 6890 6895

Val His Thr Ala Asn Lys Trp Asp Leu Ile Ile Ser Asp Met Tyr Asp
6900 6905 6910

Pro Arg Thr Lys His Val Thr Lys Glu Asn Asp Ser Lys Glu Gly Phe
6915 6920 6925

Phe Thr Tyr Leu Cys Gly Phe Ile Lys Gln Lys Leu Ala Leu Gly Gly
6930 6935 6940

Ser Ile Ala Val Lys Ile Thr Glu His Ser Trp Asn Ala Asp Leu Tyr
6945 6950 6955 6960

Lys Leu Met Gly His Phe Ser Trp Trp Thr Ala Phe Val Thr Asn Val
6965 6970 6975

Asn Ala Ser Ser Ser Glu Ala Phe Leu Ile Gly Ala Asn Tyr Leu Gly
6980 6985 6990

Lys Pro Lys Glu Gln Ile Asp Gly Tyr Thr Met His Ala Asn Tyr Ile
6995 7000 7005

Phe Trp Arg Asn Thr Asn Pro Ile Gln Leu Ser Ser Tyr Ser Leu Phe
7010 7015 7020

Asp Met Ser Lys Phe Pro Leu Lys Leu Arg Gly Thr Ala Val Met Ser
7025 7030 7035 7040

Leu Lys Glu Asn Gln Ile Asn Asp Met Ile Tyr Ser Leu Leu Glu Lys
7045 7050 7055

Gly Arg Leu Ile Ile Arg Glu Asn Asn Arg Val Val Val Ser Ser Asp
7060 7065 7070

Ile Leu Val Asn Asn
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<213> SARS coronavirus

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Asp Ser Val Glu Glu Ala Leu Ser Glu Ala Arg Glu His Leu Lys Asn
35 40 45

Gly Thr Cys Gly Leu Val Glu Leu Glu Lys Gly Val Leu Pro Gln Leu
50 55 60

Glu Gln Pro Tyr Val Phe Ile Lys Arg Ser Asp Ala Leu Ser Thr Asn
65 70 75 80

His Gly His Lys Val Val Glu Leu Val Ala Glu Met Asp Gly Ile Gln
85 90 95

Tyr Gly Arg Ser Gly Ile Thr Leu Gly Val Leu Val Pro His Val Gly
100 105 110

Glu Thr Pro Ile Ala Tyr Arg Asn Val Leu Leu Arg Lys Asn Gly Asn
115 120 125

Lys Gly Ala Gly Gly His Ser Tyr Gly Ile Asp Leu Lys Ser Tyr Asp
130 135 140

Leu Gly Asp Glu Leu Gly Thr Asp Pro Ile Glu Asp Tyr Glu Gln Asn
145 150 155 160

Trp Asn Thr Lys His Gly Ser Gly Ala Leu Arg Glu Leu Thr Arg Glu
165 170 175

Leu Asn Gly Gly Ala Val Thr Arg Tyr Val Asp Asn Asn Phe Cys Gly
180 185 190

Pro Asp Gly Tyr Pro Leu Asp Cys Ile Lys Asp Phe Leu Ala Arg Ala
195 200 205

Gly Lys Ser Met Cys Thr Leu Ser Glu Gln Leu Asp Tyr Ile Glu Ser
210 215 220

SEQLIST-20480.TXT

Lys Arg Gly Val Tyr Cys Cys Arg Asp His Glu His Glu Ile Ala Trp
 225 230 235 240
 Phe Thr Glu Arg Ser Asp Lys Ser Tyr Glu His Gln Thr Pro Phe Glu
 245 250 255
 Ile Lys Ser Ala Lys Lys Phe Asp Thr Phe Lys Gly Glu Cys Pro Lys
 260 265 270
 Phe Val Phe Pro Leu Asn Ser Lys Val Lys Val Ile Gln Pro Arg Val
 275 280 285
 Glu Lys Lys Lys Thr Glu Gly Phe Met Gly Arg Ile Arg Ser Val Tyr
 290 295 300
 Pro Val Ala Ser Pro Gln Glu Cys Asn Asn Met His Leu Ser Thr Leu
 305 310 315 320
 Met Lys Cys Asn His Cys Asp Glu Val Ser Trp Gln Thr Cys Asp Phe
 325 330 335
 Leu Lys Ala Thr Cys Glu His Cys Gly Thr Glu Asn Leu Val Ile Glu
 340 345 350
 Gly Pro Thr Thr Cys Gly Tyr Leu Pro Thr Asn Ala Val Val Lys Met
 355 360 365
 Pro Cys Pro Ala Cys Gln Asp Pro Glu Ile Gly Pro Glu His Ser Val
 370 375 380
 Ala Asp Tyr His Asn His Ser Asn Ile Glu Thr Arg Leu Arg Lys Gly
 385 390 395 400
 Gly Arg Thr Arg Cys Phe Gly Gly Cys Val Phe Ala Tyr Val Gly Cys
 405 410 415
 Tyr Asn Lys Arg Ala Tyr Trp Val Pro Arg Ala Ser Ala Asp Ile Gly
 420 425 430
 Ser Gly His Thr Gly Ile Thr Gly Asp Asn Val Glu Thr Leu Asn Glu
 435 440 445
 Asp Leu Leu Glu Ile Leu Ser Arg Glu Arg Val Asn Ile Asn Ile Val
 450 455 460
 Gly Asp Phe His Leu Asn Glu Glu Val Ala Ile Ile Leu Ala Ser Phe
 465 470 475 480
 Ser Ala Ser Thr Ser Ala Phe Ile Asp Thr Ile Lys Ser Leu Asp Tyr
 485 490 495
 Lys Ser Phe Lys Thr Ile Val Glu Ser Cys Gly Asn Tyr Lys Val Thr
 500 505 510
 Lys Gly Lys Pro Val Lys Gly Ala Trp Asn Ile Gly Gln Gln Arg Ser
 515 520 525
 Val Leu Thr Pro Leu Cys Gly Phe Pro Ser Gln Ala Ala Gly Val Ile
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 Arg Ser Ile Phe Ala Arg Thr Leu Asp Ala Ala Asn His Ser Ile Pro
 545 550 555 560

SEQLIST-20480.TXT

Asp Leu Gln Arg Ala 565 Val Thr Ile Leu 570 Asp Gly Ile Ser Glu 575 Gln
 Ser Leu Arg Leu 580 Val Asp Ala Met Val 585 Tyr Thr Ser Asp Leu 590 Leu Thr
 Asn Ser Val 595 Ile Ile Met Ala Tyr 600 Val Thr Gly Gly Leu 605 Val Gln Gln
 Thr Ser 610 Gln Trp Leu Ser Asn 615 Leu Leu Gly Thr Thr 620 Val Glu Lys Leu
 Arg 625 Pro Ile Phe Glu Trp 630 Ile Glu Ala Lys Leu 635 Ser Ala Gly Val Glu 640
 Phe Leu Lys Asp Ala 645 Trp Glu Ile Leu Lys 650 Phe Leu Ile Thr Gly Val 655
 Phe Asp Ile Val 660 Lys Gly Gln Ile Gln 665 Val Ala Ser Asp Asn 670 Ile Lys
 Asp Cys Val 675 Lys Cys Phe Ile Asp 680 Val Val Asn Lys Ala 685 Leu Glu Met
 Cys Ile 690 Asp Gln Val Thr Ile 695 Ala Gly Ala Lys Leu 700 Arg Ser Leu Asn
 Leu 705 Gly Glu Val Phe Ile 710 Ala Gln Ser Lys Gly 715 Leu Tyr Arg Gln Cys 720
 Ile Arg Gly Lys Glu 725 Gln Leu Gln Leu Leu 730 Met Pro Leu Lys Ala 735 Pro
 Lys Glu Val Thr 740 Phe Leu Glu Gly Asp 745 Ser His Asp Thr Val 750 Leu Thr
 Ser Glu Glu 755 Val Val Leu Lys Asn 760 Gly Glu Leu Glu Ala 765 Leu Glu Thr
 Pro Val 770 Asp Ser Phe Thr Asn 775 Gly Ala Ile Val Gly 780 Thr Pro Val Cys
 Val 785 Asn Gly Leu Met Leu 790 Leu Glu Ile Lys Asp 795 Lys Glu Gln Tyr Cys 800
 Ala Leu Ser Pro Gly 805 Leu Leu Ala Thr Asn 810 Asn Val Phe Arg Leu Lys 815
 Gly Gly Ala Pro 820 Ile Lys Gly Val Thr 825 Phe Gly Glu Asp Thr 830 Val Trp
 Glu Val Gln Gly Tyr Lys Asn Val 840 Arg Ile Thr Phe Glu 845 Leu Asp Glu
 Arg Val 850 Asp Lys Val Leu Asn 855 Glu Lys Cys Ser Val 860 Tyr Thr Val Glu
 Ser Gly Thr Glu Val Thr 870 Glu Phe Ala Cys Val 875 Val Ala Glu Ala Val 880
 Val Lys Thr Leu Gln 885 Pro Val Ser Asp Leu 890 Leu Thr Asn Met Gly 895 Ile

SEQLIST-20480.TXT

Asp Leu Asp Glu Trp Ser Val Ala Thr Phe Tyr Leu Phe Asp Asp Ala
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 Gly Glu Glu Asn Phe Ser Ser Arg Met Tyr Cys Ser Phe Tyr Pro Pro
 915 920 925
 Asp Glu Glu Glu Glu Asp Asp Ala Glu Cys Glu Glu Glu Glu Ile Asp
 930 935 940
 Glu Thr Cys Glu His Glu Tyr Gly Thr Glu Asp Asp Tyr Gln Gly Leu
 945 950 955 960
 Pro Leu Glu Phe Gly Ala Ser Ala Glu Thr Val Arg Val Glu Glu Glu
 965 970 975
 Glu Glu Glu Asp Trp Leu Asp Asp Thr Thr Glu Gln Ser Glu Ile Glu
 980 985 990
 Pro Glu Pro Glu Pro Thr Pro Glu Glu Pro Val Asn Gln Phe Thr Gly
 995 1000 1005
 Tyr Leu Lys Leu Thr Asp Asn Val Ala Ile Lys Cys Val Asp Ile Val
 1010 1015 1020
 Lys Glu Ala Gln Ser Ala Asn Pro Met Val Ile Val Asn Ala Ala Asn
 1025 1030 1035 1040
 Ile His Leu Lys His Gly Gly Gly Val Ala Gly Ala Leu Asn Lys Ala
 1045 1050 1055
 Thr Asn Gly Ala Met Gln Lys Glu Ser Asp Asp Tyr Ile Lys Leu Asn
 1060 1065 1070
 Gly Pro Leu Thr Val Gly Gly Ser Cys Leu Leu Ser Gly His Asn Leu
 1075 1080 1085
 Ala Lys Lys Cys Leu His Val Val Gly Pro Asn Leu Asn Ala Gly Glu
 1090 1095 1100
 Asp Ile Gln Leu Leu Lys Ala Ala Tyr Glu Asn Phe Asn Ser Gln Asp
 1105 1110 1115 1120
 Ile Leu Leu Ala Pro Leu Leu Ser Ala Gly Ile Phe Gly Ala Lys Pro
 1125 1130 1135
 Leu Gln Ser Leu Gln Val Cys Val Gln Thr Val Arg Thr Gln Val Tyr
 1140 1145 1150
 Ile Ala Val Asn Asp Lys Ala Leu Tyr Glu Gln Val Val Met Asp Tyr
 1155 1160 1165
 Leu Asp Asn Leu Lys Pro Arg Val Glu Ala Pro Lys Gln Glu Glu Pro
 1170 1175 1180
 Pro Asn Thr Glu Asp Ser Lys Thr Glu Glu Lys Ser Val Val Gln Lys
 1185 1190 1195 1200
 Pro Val Asp Val Lys Pro Lys Ile Lys Ala Cys Ile Asp Glu Val Thr
 1205 1210 1215
 Thr Thr Leu Glu Glu Thr Lys Phe Leu Thr Asn Lys Leu Leu Leu Phe
 1220 1225 1230

SEQLIST-20480.TXT

Ala Asp Ile Asn Gly Lys Leu Tyr His Asp Ser Gln Asn Met Leu Arg
1235 1240 1245

Gly Glu Asp Met Ser Phe Leu Glu Lys Asp Ala Pro Tyr Met Val Gly
1250 1255 1260

Asp Val Ile Thr Ser Gly Asp Ile Thr Cys Val Val Ile Pro Ser Lys
1265 1270 1275 1280

Lys Ala Gly Gly Thr Thr Glu Met Leu Ser Arg Ala Leu Lys Lys Val
1285 1290 1295

Pro Val Asp Glu Tyr Ile Thr Thr Tyr Pro Gly Gln Gly Cys Ala Gly
1300 1305 1310

Tyr Thr Leu Glu Glu Ala Lys Thr Ala Leu Lys Lys Cys Lys Ser Ala
1315 1320 1325

Phe Tyr Val Leu Pro Ser Glu Ala Pro Asn Ala Lys Glu Glu Ile Leu
1330 1335 1340

Gly Thr Val Ser Trp Asn Leu Arg Glu Met Leu Ala His Ala Glu Glu
1345 1350 1355 1360

Thr Arg Lys Leu Met Pro Ile Cys Met Asp Val Arg Ala Ile Met Ala
1365 1370 1375

Thr Ile Gln Arg Lys Tyr Lys Gly Ile Lys Ile Gln Glu Gly Ile Val
1380 1385 1390

Asp Tyr Gly Val Arg Phe Phe Phe Tyr Thr Ser Lys Glu Pro Val Ala
1395 1400 1405

Ser Ile Ile Thr Lys Leu Asn Ser Leu Asn Glu Pro Leu Val Thr Met
1410 1415 1420

Pro Ile Gly Tyr Val Thr His Gly Phe Asn Leu Glu Glu Ala Ala Arg
1425 1430 1435 1440

Cys Met Arg Ser Leu Lys Ala Pro Ala Val Val Ser Val Ser Ser Pro
1445 1450 1455

Asp Ala Val Thr Thr Tyr Asn Gly Tyr Leu Thr Ser Ser Ser Lys Thr
1460 1465 1470

Ser Glu Glu His Phe Val Glu Thr Val Ser Leu Ala Gly Ser Tyr Arg
1475 1480 1485

Asp Trp Ser Tyr Ser Gly Gln Arg Thr Glu Leu Gly Val Glu Phe Leu
1490 1495 1500

Lys Arg Gly Asp Lys Ile Val Tyr His Thr Leu Glu Ser Pro Val Glu
1505 1510 1515 1520

Phe His Leu Asp Gly Glu Val Leu Ser Leu Asp Lys Leu Lys Ser Leu
1525 1530 1535

Leu Ser Leu Arg Glu Val Lys Thr Ile Lys Val Phe Thr Thr Val Asp
1540 1545 1550

Asn Thr Asn Leu His Thr Gln Leu Val Asp Met Ser Met Thr Tyr Gly
1555 1560 1565

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Gln Gln Phe Gly Pro Thr Tyr Leu Asp Gly Ala Asp Val Thr Lys Ile
1570 1575 1580

Lys Pro His Val Asn His Glu Gly Lys Thr Phe Phe Val Leu Pro Ser
1585 1590 1600

Asp Asp Thr Leu Arg Ser Glu Ala Phe Glu Tyr Tyr His Thr Leu Asp
1605 1610 1615

Glu Ser Phe Leu Gly Arg Tyr Met Ser Ala Leu Asn His Thr Lys Lys
1620 1625 1630

Trp Lys Phe Pro Gln Val Gly Gly Leu Thr Ser Ile Lys Trp Ala Asp
1635 1640 1645

Asn Asn Cys Tyr Leu Ser Ser Val Leu Leu Ala Leu Gln Gln Leu Glu
1650 1655 1660

Val Lys Phe Asn Ala Pro Ala Leu Gln Glu Ala Tyr Tyr Arg Ala Arg
1665 1670 1675 1680

Ala Gly Asp Ala Ala Asn Phe Cys Ala Leu Ile Leu Ala Tyr Ser Asn
1685 1690 1695

Lys Thr Val Gly Glu Leu Gly Asp Val Arg Glu Thr Met Thr His Leu
1700 1705 1710

Leu Gln His Ala Asn Leu Glu Ser Ala Lys Arg Val Leu Asn Val Val
1715 1720 1725

Cys Lys His Cys Gly Gln Lys Thr Thr Thr Leu Thr Gly Val Glu Ala
1730 1735 1740

Val Met Tyr Met Gly Thr Leu Ser Tyr Asp Asn Leu Lys Thr Gly Val
1745 1750 1755 1760

Ser Ile Pro Cys Val Cys Gly Arg Asp Ala Thr Gln Tyr Leu Val Gln
1765 1770 1775

Gln Glu Ser Ser Phe Val Met Met Ser Ala Pro Pro Ala Glu Tyr Lys
1780 1785 1790

Leu Gln Gln Gly Thr Phe Leu Cys Ala Asn Glu Tyr Thr Gly Asn Tyr
1795 1800 1805

Gln Cys Gly His Tyr Thr His Ile Thr Ala Lys Glu Thr Leu Tyr Arg
1810 1815 1820

Ile Asp Gly Ala His Leu Thr Lys Met Ser Glu Tyr Lys Gly Pro Val
1825 1830 1835 1840

Thr Asp Val Phe Tyr Lys Glu Thr Ser Tyr Thr Thr Thr Ile Lys Pro
1845 1850 1855

Val Ser Tyr Lys Leu Asp Gly Val Thr Tyr Thr Glu Ile Glu Pro Lys
1860 1865 1870

Leu Asp Gly Tyr Tyr Lys Lys Asp Asn Ala Tyr Tyr Thr Glu Gln Pro
1875 1880 1885

Ile Asp Leu Val Pro Thr Gln Pro Leu Pro Asn Ala Ser Phe Asp Asn
1890 1895 1900

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Phe Lys Leu Thr Cys Ser Asn Thr Lys Phe Ala Asp Asp Leu Asn Gln
 1905 1910 1915 1920
 Met Thr Gly Phe Thr Lys Pro Ala Ser Arg Glu Leu Ser Val Thr Phe
 1925 1930 1935
 Phe Pro Asp Leu Asn Gly Asp Val Val Ala Ile Asp Tyr Arg His Tyr
 1940 1945 1950
 Ser Ala Ser Phe Lys Lys Gly Ala Lys Leu Leu His Lys Pro Ile Val
 1955 1960 1965
 Trp His Ile Asn Gln Ala Thr Thr Lys Thr Thr Phe Lys Pro Asn Thr
 1970 1975 1980
 Trp Cys Leu Arg Cys Leu Trp Ser Thr Lys Pro Val Asp Thr Ser Asn
 1985 1990 1995 2000
 Ser Phe Glu Val Leu Ala Val Glu Asp Thr Gln Gly Met Asp Asn Leu
 2005 2010 2015
 Ala Cys Glu Ser Gln Gln Pro Thr Ser Glu Glu Val Val Glu Asn Pro
 2020 2025 2030
 Thr Ile Gln Lys Glu Val Ile Glu Cys Asp Val Lys Thr Thr Glu Val
 2035 2040 2045
 Val Gly Asn Val Ile Leu Lys Pro Ser Asp Glu Gly Val Lys Val Thr
 2050 2055 2060
 Gln Glu Leu Gly His Glu Asp Leu Met Ala Ala Tyr Val Glu Asn Thr
 2065 2070 2075 2080
 Ser Ile Thr Ile Lys Lys Pro Asn Glu Leu Ser Leu Ala Leu Gly Leu
 2085 2090 2095
 Lys Thr Ile Ala Thr His Gly Ile Ala Ala Ile Asn Ser Val Pro Trp
 2100 2105 2110
 Ser Lys Ile Leu Ala Tyr Val Lys Pro Phe Leu Gly Gln Ala Ala Ile
 2115 2120 2125
 Thr Thr Ser Asn Cys Ala Lys Arg Leu Ala Gln Arg Val Phe Asn Asn
 2130 2135 2140
 Tyr Met Pro Tyr Val Phe Thr Leu Leu Phe Gln Leu Cys Thr Phe Thr
 2145 2150 2155 2160
 Lys Ser Thr Asn Ser Arg Ile Arg Ala Ser Leu Pro Thr Thr Ile Ala
 2165 2170 2175
 Lys Asn Ser Val Lys Ser Val Ala Lys Leu Cys Leu Asp Ala Gly Ile
 2180 2185 2190
 Asn Tyr Val Lys Ser Pro Lys Phe Ser Lys Leu Phe Thr Ile Ala Met
 2195 2200 2205
 Trp Leu Leu Leu Leu Ser Ile Cys Leu Gly Ser Leu Ile Cys Val Thr
 2210 2215 2220
 Ala Ala Phe Gly Val Leu Leu Ser Asn Phe Gly Ala Pro Ser Tyr Cys
 2225 2230 2235 2240

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Asn Gly Val Arg Glu Leu Tyr Leu Asn Ser Ser Asn Val Thr Thr Met
2245 2250 2255

Asp Phe Cys Glu Gly Ser Phe Pro Cys Ser Ile Cys Leu Ser Gly Leu
2260 2265 2270

Asp Ser Leu Asp Ser Tyr Pro Ala Leu Glu Thr Ile Gln Val Thr Ile
2275 2280 2285

Ser Ser Tyr Lys Leu Asp Leu Thr Ile Leu Gly Leu Ala Ala Glu Trp
2290 2295 2300

Val Leu Ala Tyr Met Leu Phe Thr Lys Phe Phe Tyr Leu Leu Gly Leu
2305 2310 2315 2320

Ser Ala Ile Met Gln Val Phe Phe Gly Tyr Phe Ala Ser His Phe Ile
2325 2330 2335

Ser Asn Ser Trp Leu Met Trp Phe Ile Ile Ser Ile Val Gln Met Ala
2340 2345 2350

Pro Val Ser Ala Met Val Arg Met Tyr Ile Phe Phe Ala Ser Phe Tyr
2355 2360 2365

Tyr Ile Trp Lys Ser Tyr Val His Ile Met Asp Gly Cys Thr Ser Ser
2370 2375 2380

Thr Cys Met Met Cys Tyr Lys Arg Asn Arg Ala Thr Arg Val Glu Cys
2385 2390 2395 2400

Thr Thr Ile Val Asn Gly Met Lys Arg Ser Phe Tyr Val Tyr Ala Asn
2405 2410 2415

Gly Gly Arg Gly Phe Cys Lys Thr His Asn Trp Asn Cys Leu Asn Cys
2420 2425 2430

Asp Thr Phe Cys Thr Gly Ser Thr Phe Ile Ser Asp Glu Val Ala Arg
2435 2440 2445

Asp Leu Ser Leu Gln Phe Lys Arg Pro Ile Asn Pro Thr Asp Gln Ser
2450 2455 2460

Ser Tyr Ile Val Asp Ser Val Ala Val Lys Asn Gly Ala Leu His Leu
2465 2470 2475 2480

Tyr Phe Asp Lys Ala Gly Gln Lys Thr Tyr Glu Arg His Pro Leu Ser
2485 2490 2495

His Phe Val Asn Leu Asp Asn Leu Arg Ala Asn Asn Thr Lys Gly Ser
2500 2505 2510

Leu Pro Ile Asn Val Ile Val Phe Asp Gly Lys Ser Lys Cys Asp Glu
2515 2520 2525

Ser Ala Ser Lys Ser Ala Ser Val Tyr Tyr Ser Gln Leu Met Cys Gln
2530 2535 2540

Pro Ile Leu Leu Leu Asp Gln Ala Leu Val Ser Asp Val Gly Asp Ser
2545 2550 2555 2560

Thr Glu Val Ser Val Lys Met Phe Asp Ala Tyr Val Asp Thr Phe Ser
2565 2570 2575

SEQLIST-20480.TXT

Ala Thr Phe Ser Val Pro Met Glu Lys Leu Lys Ala Leu Val Ala Thr
2580 2585

Ala His Ser Glu Leu Ala Lys Gly Val Ala Leu Asp Gly Val Leu Ser
2595 2600 2605

Thr Phe Val Ser Ala Ala Arg Gln Gly Val Val Asp Thr Asp Val Asp
2610 2615 2620

Thr Lys Asp Val Ile Glu Cys Leu Lys Leu Ser His His Ser Asp Leu
2625 2630 2635 2640

Glu Val Thr Gly Asp Ser Cys Asn Asn Phe Met Leu Thr Tyr Asn Lys
2645 2650 2655

Val Glu Asn Met Thr Pro Arg Asp Leu Gly Ala Cys Ile Asp Cys Asn
2660 2665 2670

Ala Arg His Ile Asn Ala Gln Val Ala Lys Ser His Asn Val Ser Leu
2675 2680 2685

Ile Trp Asn Val Lys Asp Tyr Met Ser Leu Ser Glu Gln Leu Arg Lys
2690 2695 2700

Gln Ile Arg Ser Ala Ala Lys Lys Asn Asn Ile Pro Phe Arg Leu Thr
2705 2710 2715 2720

Cys Ala Thr Thr Arg Gln Val Val Asn Val Ile Thr Thr Lys Ile Ser
2725 2730 2735

Leu Lys Gly Gly Lys Ile Val Ser Thr Cys Phe Lys Leu Met Leu Lys
2740 2745 2750

Ala Thr Leu Leu Cys Val Leu Ala Ala Leu Val Cys Tyr Ile Val Met
2755 2760 2765

Pro Val His Thr Leu Ser Ile His Asp Gly Tyr Thr Asn Glu Ile Ile
2770 2775 2780

Gly Tyr Lys Ala Ile Gln Asp Gly Val Thr Arg Asp Ile Ile Ser Thr
2785 2790 2795 2800

Asp Asp Cys Phe Ala Asn Lys His Ala Gly Phe Asp Ala Trp Phe Ser
2805 2810 2815

Gln Arg Gly Gly Ser Tyr Lys Asn Asp Lys Ser Cys Pro Val Val Ala
2820 2825 2830

Ala Ile Ile Thr Arg Glu Ile Gly Phe Ile Val Pro Gly Leu Pro Gly
2835 2840 2845

Thr Val Leu Arg Ala Ile Asn Gly Asp Phe Leu His Phe Leu Pro Arg
2850 2855 2860

Val Phe Ser Ala Val Gly Asn Ile Cys Tyr Thr Pro Ser Lys Leu Ile
2865 2870 2875 2880

Glu Tyr Ser Asp Phe Ala Thr Ser Ala Cys Val Leu Ala Ala Glu Cys
2885 2890 2895

Thr Ile Phe Lys Asp Ala Met Gly Lys Pro Val Pro Tyr Cys Tyr Asp
2900 2905 2910

SEQLIST-20480.TXT

Thr Asn Leu Leu Glu Gly Ser Ile Ser Tyr Ser Glu Leu Arg Pro Asp
2915 2920 2925

Thr Arg Tyr Val Leu Met Asp Gly Ser Ile Ile Gln Phe Pro Asn Thr
2930 2935 2940

Tyr Leu Glu Gly Ser Val Arg Val Val Thr Thr Phe Asp Ala Glu Tyr
2945 2950 2955 2960

Cys Arg His Gly Thr Cys Glu Arg Ser Glu Val Gly Ile Cys Leu Ser
2965 2970 2975

Thr Ser Gly Arg Trp Val Leu Asn Asn Glu His Tyr Arg Ala Leu Ser
2980 2985 2990

Gly Val Phe Cys Gly Val Asp Ala Met Asn Leu Ile Ala Asn Ile Phe
2995 3000 3005

Thr Pro Leu Val Gln Pro Val Gly Ala Leu Asp Val Ser Ala Ser Val
3010 3015 3020

Val Ala Gly Gly Ile Ile Ala Ile Leu Val Thr Cys Ala Ala Tyr Tyr
3025 3030 3035 3040

Phe Met Lys Phe Arg Arg Val Phe Gly Glu Tyr Asn His Val Val Ala
3045 3050 3055

Ala Asn Ala Leu Leu Phe Leu Met Ser Phe Thr Ile Leu Cys Leu Val
3060 3065 3070

Pro Ala Tyr Ser Phe Leu Pro Gly Val Tyr Ser Val Phe Tyr Leu Tyr
3075 3080 3085

Leu Thr Phe Tyr Phe Thr Asn Asp Val Ser Phe Leu Ala His Leu Gln
3090 3095 3100

Trp Phe Ala Met Phe Ser Pro Ile Val Pro Phe Trp Ile Thr Ala Ile
3105 3110 3115 3120

Tyr Val Phe Cys Ile Ser Leu Lys His Cys His Trp Phe Phe Asn Asn
3125 3130 3135

Tyr Leu Arg Lys Arg Val Met Phe Asn Gly Val Thr Phe Ser Thr Phe
3140 3145 3150

Glu Glu Ala Ala Leu Cys Thr Phe Leu Leu Asn Lys Glu Met Tyr Leu
3155 3160 3165

Lys Leu Arg Ser Glu Thr Leu Leu Pro Leu Thr Gln Tyr Asn Arg Tyr
3170 3175 3180

Leu Ala Leu Tyr Asn Lys Tyr Lys Tyr Phe Ser Gly Ala Leu Asp Thr
3185 3190 3195 3200

Thr Ser Tyr Arg Glu Ala Ala Cys Cys His Leu Ala Lys Ala Leu Asn
3205 3210 3215

Asp Phe Ser Asn Ser Gly Ala Asp Val Leu Tyr Gln Pro Pro Gln Thr
3220 3225 3230

Ser Ile Thr Ser Ala Val Leu Gln Ser Gly Phe Arg Lys Met Ala Phe
3235 3240 3245

SEQLIST-20480.TXT

Pro Ser Gly Lys Val Glu Gly Cys Met Val Gln Val Thr Cys Gly Thr
3250 3255 3260

Thr Thr Leu Asn Gly Leu Trp Leu Asp Asp Thr Val Tyr Cys Pro Arg
3265 3270 3275 3280

His Val Ile Cys Thr Ala Glu Asp Met Leu Asn Pro Asn Tyr Glu Asp
3285 3290 3295

Leu Leu Ile Arg Lys Ser Asn His Ser Phe Leu Val Gln Ala Gly Asn
3300 3305 3310

Val Gln Leu Arg Val Ile Gly His Ser Met Gln Asn Cys Leu Leu Arg
3315 3320 3325

Leu Lys Val Asp Thr Ser Asn Pro Lys Thr Pro Lys Tyr Lys Phe Val
3330 3335 3340

Arg Ile Gln Pro Gly Gln Thr Phe Ser Val Leu Ala Cys Tyr Asn Gly
3345 3350 3355 3360

Ser Pro Ser Gly Val Tyr Gln Cys Ala Met Arg Pro Asn His Thr Ile
3365 3370 3375

Lys Gly Ser Phe Leu Asn Gly Ser Cys Gly Ser Val Gly Phe Asn Ile
3380 3385 3390

Asp Tyr Asp Cys Val Ser Phe Cys Tyr Met His His Met Glu Leu Pro
3395 3400 3405

Thr Gly Val His Ala Gly Thr Asp Leu Glu Gly Lys Phe Tyr Gly Pro
3410 3415 3420

Phe Val Asp Arg Gln Thr Ala Gln Ala Ala Gly Thr Asp Thr Thr Ile
3425 3430 3435 3440

Thr Leu Asn Val Leu Ala Trp Leu Tyr Ala Ala Val Ile Asn Gly Asp
3445 3450 3455

Arg Trp Phe Leu Asn Arg Phe Thr Thr Thr Leu Asn Asp Phe Asn Leu
3460 3465 3470

Val Ala Met Lys Tyr Asn Tyr Glu Pro Leu Thr Gln Asp His Val Asp
3475 3480 3485

Ile Leu Gly Pro Leu Ser Ala Gln Thr Gly Ile Ala Val Leu Asp Met
3490 3495 3500

Cys Ala Ala Leu Lys Glu Leu Leu Gln Asn Gly Met Asn Gly Arg Thr
3505 3510 3515 3520

Ile Leu Gly Ser Thr Ile Leu Glu Asp Glu Phe Thr Pro Phe Asp Val
3525 3530 3535

Val Arg Gln Cys Ser Gly Val Thr Phe Gln Gly Lys Phe Lys Lys Ile
3540 3545 3550

Val Lys Gly Thr His His Trp Met Leu Leu Thr Phe Leu Thr Ser Leu
3555 3560 3565

Leu Ile Leu Val Gln Ser Thr Gln Trp Ser Leu Phe Phe Phe Val Tyr
3570 3575 3580

SEQLIST-20480.TXT

Glu Asn Ala Phe Leu Pro Phe Thr Leu Gly Ile Met Ala Ile Ala Ala
 3585 3590 3595 3600
 Cys Ala Met Leu Leu Val Lys His Lys His Ala Phe Leu Cys Leu Phe
 3605 3610 3615
 Leu Leu Pro Ser Leu Ala Thr Val Ala Tyr Phe Asn Met Val Tyr Met
 3620 3625 3630
 Pro Ala Ser Trp Val Met Arg Ile Met Thr Trp Leu Glu Leu Ala Asp
 3635 3640 3645
 Thr Ser Leu Ser Gly Tyr Arg Leu Lys Asp Cys Val Met Tyr Ala Ser
 3650 3655 3660
 Ala Leu Val Leu Leu Ile Leu Met Thr Ala Arg Thr Val Tyr Asp Asp
 3665 3670 3675 3680
 Ala Ala Arg Arg Val Trp Thr Leu Met Asn Val Ile Thr Leu Val Tyr
 3685 3690 3695
 Lys Val Tyr Tyr Gly Asn Ala Leu Asp Gln Ala Ile Ser Met Trp Ala
 3700 3705 3710
 Leu Val Ile Ser Val Thr Ser Asn Tyr Ser Gly Val Val Thr Thr Ile
 3715 3720 3725
 Met Phe Leu Ala Arg Ala Ile Val Phe Val Cys Val Glu Tyr Tyr Pro
 3730 3735 3740
 Leu Leu Phe Ile Thr Gly Asn Thr Leu Gln Cys Ile Met Leu Val Tyr
 3745 3750 3755 3760
 Cys Phe Leu Gly Tyr Cys Cys Cys Cys Tyr Phe Gly Leu Phe Cys Leu
 3765 3770 3775
 Leu Asn Arg Tyr Phe Arg Leu Thr Leu Gly Val Tyr Asp Tyr Leu Val
 3780 3785 3790
 Ser Thr Gln Glu Phe Arg Tyr Met Asn Ser Gln Gly Leu Leu Pro Pro
 3795 3800 3805
 Lys Ser Ser Ile Asp Ala Phe Lys Leu Asn Ile Lys Leu Leu Gly Ile
 3810 3815 3820
 Gly Gly Lys Pro Cys Ile Lys Val Ala Thr Val Gln Ser Lys Met Ser
 3825 3830 3835 3840
 Asp Val Lys Cys Thr Ser Val Val Leu Leu Ser Val Leu Gln Gln Leu
 3845 3850 3855
 Arg Val Glu Ser Ser Ser Lys Leu Trp Ala Gln Cys Val Gln Leu His
 3860 3865 3870
 Asn Asp Ile Leu Leu Ala Lys Asp Thr Thr Glu Ala Phe Glu Lys Met
 3875 3880 3885
 Val Ser Leu Leu Ser Val Leu Leu Ser Met Gln Gly Ala Val Asp Ile
 3890 3895 3900
 Asn Arg Leu Cys Glu Glu Met Leu Asp Asn Arg Ala Thr Leu Gln Ala
 3905 3910 3915 3920

SEQLIST-20480.TXT

Ile Ala Ser Glu Phe Ser Ser Leu Pro Ser Tyr Ala Ala Tyr Ala Thr
3925 3930 3935

Ala Gln Glu Ala Tyr Glu Gln Ala Val Ala Asn Gly Asp Ser Glu Val
3940 3945 3950

Val Leu Lys Lys Leu Lys Lys Ser Leu Asn Val Ala Lys Ser Glu Phe
3955 3960 3965

Asp Arg Asp Ala Ala Met Gln Arg Lys Leu Glu Lys Met Ala Asp Gln
3970 3975 3980

Ala Met Thr Gln Met Tyr Lys Gln Ala Arg Ser Glu Asp Lys Arg Ala
3985 3990 4000

Lys Val Thr Ser Ala Met Gln Thr Met Leu Phe Thr Met Leu Arg Lys
4005 4010 4015

Leu Asp Asn Asp Ala Leu Asn Asn Ile Ile Asn Asn Ala Arg Asp Gly
4020 4025 4030

Cys Val Pro Leu Asn Ile Ile Pro Leu Thr Thr Ala Ala Lys Leu Met
4035 4040 4045

Val Val Val Pro Asp Tyr Gly Thr Tyr Lys Asn Thr Cys Asp Gly Asn
4050 4055 4060

Thr Phe Thr Tyr Ala Ser Ala Leu Trp Glu Ile Gln Gln Val Val Asp
4065 4070 4075 4080

Ala Asp Ser Lys Ile Val Gln Leu Ser Glu Ile Asn Met Asp Asn Ser
4085 4090 4095

Pro Asn Leu Ala Trp Pro Leu Ile Val Thr Ala Leu Arg Ala Asn Ser
4100 4105 4110

Ala Val Lys Leu Gln Asn Asn Glu Leu Ser Pro Val Ala Leu Arg Gln
4115 4120 4125

Met Ser Cys Ala Ala Gly Thr Thr Gln Thr Ala Cys Thr Asp Asp Asn
4130 4135 4140

Ala Leu Ala Tyr Tyr Asn Asn Ser Lys Gly Gly Arg Phe Val Leu Ala
4145 4150 4155 4160

Leu Leu Ser Asp His Gln Asp Leu Lys Trp Ala Arg Phe Pro Lys Ser
4165 4170 4175

Asp Gly Thr Gly Thr Ile Tyr Thr Glu Leu Glu Pro Pro Cys Arg Phe
4180 4185 4190

Val Thr Asp Thr Pro Lys Gly Pro Lys Val Lys Tyr Leu Tyr Phe Ile
4195 4200 4205

Lys Gly Leu Asn Asn Leu Asn Arg Gly Met Val Leu Gly Ser Leu Ala
4210 4215 4220

Ala Thr Val Arg Leu Gln Ala Gly Asn Ala Thr Glu Val Pro Ala Asn
4225 4230 4235 4240

Ser Thr Val Leu Ser Phe Cys Ala Phe Ala Val Asp Pro Ala Lys Ala
4245 4250 4255

SEQLIST-20480.TXT

Tyr Lys Asp Tyr Leu Ala Ser Gly Gly Gln Pro Ile Thr Asn Cys Val
 4260 4265 4270
 Lys Met Leu Cys Thr His Thr Gly Thr Gly Gln Ala Ile Thr Val Thr
 4275 4280 4285
 Pro Glu Ala Asn Met Asp Gln Glu Ser Phe Gly Gly Ala Ser Cys Cys
 4290 4295 4300
 Leu Tyr Cys Arg Cys His Ile Asp His Pro Asn Pro Lys Gly Phe Cys
 4305 4310 4315 4320
 Asp Leu Lys Gly Lys Tyr Val Gln Ile Pro Thr Thr Cys Ala Asn Asp
 4325 4330 4335
 Pro Val Gly Phe Thr Leu Arg Asn Thr Val Cys Thr Val Cys Gly Met
 4340 4345 4350
 Trp Lys Gly Tyr Gly Cys Ser Cys Asp Gln Leu Arg Glu Pro Leu Met
 4355 4360 4365
 Gln Ser Ala Asp Ala Ser Thr Phe Gly Val Ser Ala Ala Arg Leu Thr
 4370 4375 4380
 Pro Cys Gly Thr Gly Thr Ser Thr Asp Val Val Tyr Arg Ala Phe Asp
 4385 4390 4395 4400
 Ile Tyr Asn Glu Lys Val Ala Gly Phe Ala Lys Phe Leu Lys Thr Asn
 4405 4410 4415
 Cys Cys Arg Phe Gln Glu Lys Asp Glu Glu Gly Asn Leu Leu Asp Ser
 4420 4425 4430
 Tyr Phe Val Val Lys Arg His Thr Met Ser Asn Tyr Gln His Glu Glu
 4435 4440 4445
 Thr Ile Tyr Asn Leu Val Lys Asp Cys Pro Ala Val Ala Val His Asp
 4450 4455 4460
 Phe Phe Lys Phe Arg Val Asp Gly Asp Met Val Pro His Ile Ser Arg
 4465 4470 4475 4480
 Gln Arg Leu Thr Lys Tyr Thr Met Ala Asp Leu Val Tyr Ala Leu Arg
 4485 4490 4495
 His Phe Asp Glu Gly Asn Cys Asp Thr Leu Lys Glu Ile Leu Val Thr
 4500 4505 4510
 Tyr Asn Cys Cys Asp Asp Asp Tyr Phe Asn Lys Lys Asp Trp Tyr Asp
 4515 4520 4525
 Phe Val Glu Asn Pro Asp Ile Leu Arg Val Tyr Ala Asn Leu Gly Glu
 4530 4535 4540
 Arg Val Arg Gln Ser Leu Leu Lys Thr Val Gln Phe Cys Asp Ala Met
 4545 4550 4555 4560
 Arg Asp Ala Gly Ile Val Gly Val Leu Thr Leu Asp Asn Gln Asp Leu
 4565 4570 4575
 Asn Gly Asn Trp Tyr Asp Phe Gly Asp Phe Val Gln Val Ala Pro Gly
 4580 4585 4590

SEQLIST-20480.TXT

Cys Gly Val Pro Ile Val Asp Ser Tyr Tyr Ser Leu Leu Met Pro Ile
 4595 4600 4605
 Leu Thr Leu Thr Arg Ala Leu Ala Ala Glu Ser His Met Asp Ala Asp
 4610 4615 4620
 Leu Ala Lys Pro Leu Ile Lys Trp Asp Leu Leu Lys Tyr Asp Phe Thr
 4625 4630 4635 4640
 Glu Glu Arg Leu Cys Leu Phe Asp Arg Tyr Phe Lys Tyr Trp Asp Gln
 4645 4650 4655
 Thr Tyr His Pro Asn Cys Ile Asn Cys Leu Asp Asp Arg Cys Ile Leu
 4660 4665 4670
 His Cys Ala Asn Phe Asn Val Leu Phe Ser Thr Val Phe Pro Pro Thr
 4675 4680 4685
 Ser Phe Gly Pro Leu Val Arg Lys Ile Phe Val Asp Gly Val Pro Phe
 4690 4695 4700
 Val Val Ser Thr Gly Tyr His Phe Arg Glu Leu Gly Val Val His Asn
 4705 4710 4715 4720
 Gln Asp Val Asn Leu His Ser Ser Arg Leu Ser Phe Lys Glu Leu Leu
 4725 4730 4735
 Val Tyr Ala Ala Asp Pro Ala Met His Ala Ala Ser Gly Asn Leu Leu
 4740 4745 4750
 Leu Asp Lys Arg Thr Thr Cys Phe Ser Val Ala Ala Leu Thr Asn Asn
 4755 4760 4765
 Val Ala Phe Gln Thr Val Lys Pro Gly Asn Phe Asn Lys Asp Phe Tyr
 4770 4775 4780
 Asp Phe Ala Val Ser Lys Gly Phe Phe Lys Glu Gly Ser Ser Val Glu
 4785 4790 4795 4800
 Leu Lys His Phe Phe Phe Ala Gln Asp Gly Asn Ala Ala Ile Ser Asp
 4805 4810 4815
 Tyr Asp Tyr Tyr Arg Tyr Asn Leu Pro Thr Met Cys Asp Ile Arg Gln
 4820 4825 4830
 Leu Leu Phe Val Val Glu Val Val Asp Lys Tyr Phe Asp Cys Tyr Asp
 4835 4840 4845
 Gly Gly Cys Ile Asn Ala Asn Gln Val Ile Val Asn Asn Leu Asp Lys
 4850 4855 4860
 Ser Ala Gly Phe Pro Phe Asn Lys Trp Gly Lys Ala Arg Leu Tyr Tyr
 4865 4870 4875 4880
 Asp Ser Met Ser Tyr Glu Asp Gln Asp Ala Leu Phe Ala Tyr Thr Lys
 4885 4890 4895
 Arg Asn Val Ile Pro Thr Ile Thr Gln Met Asn Leu Lys Tyr Ala Ile
 4900 4905 4910
 Ser Ala Lys Asn Arg Ala Arg Thr Val Ala Gly Val Ser Ile Cys Ser
 4915 4920 4925

SEQLIST-20480.TXT

Thr Met Thr Asn Arg Gln Phe His Gln Lys Leu Leu Lys Ser Ile Ala
4930 4935 4940

Ala Thr Arg Gly Ala Thr Val Val Ile Gly Thr Ser Lys Phe Tyr Gly
4945 4950 4955 4960

Gly Trp His Asn Met Leu Lys Thr Val Tyr Ser Asp Val Glu Thr Pro
4965 4970 4975

His Leu Met Gly Trp Asp Tyr Pro Lys Cys Asp Arg Ala Met Pro Asn
4980 4985 4990

Met Leu Arg Ile Met Ala Ser Leu Val Leu Ala Arg Lys His Asn Thr
4995 5000 5005

Cys Cys Asn Leu Ser His Arg Phe Tyr Arg Leu Ala Asn Glu Cys Ala
5010 5015 5020

Gln Val Leu Ser Glu Met Val Met Cys Gly Gly Ser Leu Tyr Val Lys
5025 5030 5035 5040

Pro Gly Gly Thr Ser Ser Gly Asp Ala Thr Thr Ala Tyr Ala Asn Ser
5045 5050 5055

Val Phe Asn Ile Cys Gln Ala Val Thr Ala Asn Val Asn Ala Leu Leu
5060 5065 5070

Ser Thr Asp Gly Asn Lys Ile Ala Asp Lys Tyr Val Arg Asn Leu Gln
5075 5080 5085

His Arg Leu Tyr Glu Cys Leu Tyr Arg Asn Arg Asp Val Asp His Glu
5090 5095 5100

Phe Val Asp Glu Phe Tyr Ala Tyr Leu Arg Lys His Phe Ser Met Met
5105 5110 5115 5120

Ile Leu Ser Asp Asp Ala Val Val Cys Tyr Asn Ser Asn Tyr Ala Ala
5125 5130 5135

Gln Gly Leu Val Ala Ser Ile Lys Asn Phe Lys Ala Val Leu Tyr Tyr
5140 5145 5150

Gln Asn Asn Val Phe Met Ser Glu Ala Lys Cys Trp Thr Glu Thr Asp
5155 5160 5165

Leu Thr Lys Gly Pro His Glu Phe Cys Ser Gln His Thr Met Leu Val
5170 5175 5180

Lys Gln Gly Asp Asp Tyr Val Tyr Leu Pro Tyr Pro Asp Pro Ser Arg
5185 5190 5195 5200

Ile Leu Gly Ala Gly Cys Phe Val Asp Asp Ile Val Lys Thr Asp Gly
5205 5210 5215

Thr Leu Met Ile Glu Arg Phe Val Ser Leu Ala Ile Asp Ala Tyr Pro
5220 5225 5230

Leu Thr Lys His Pro Asn Gln Glu Tyr Ala Asp Val Phe His Leu Tyr
5235 5240 5245

Leu Gln Tyr Ile Arg Lys Leu His Asp Glu Leu Thr Gly His Met Leu
5250 5255 5260

SEQLIST-20480.TXT

Asp Met Tyr Ser Val Met Leu Thr Asn Asp Asn Thr Ser Arg Tyr Trp
 5265 5270 5275 5280
 Glu Pro Glu Phe Tyr Glu Ala Met Tyr Thr Pro His Thr Val Leu Gln
 5285 5290 5295
 Ala Val Gly Ala Cys Val Leu Cys Asn Ser Gln Thr Ser Leu Arg Cys
 5300 5305 5310
 Gly Ala Cys Ile Arg Arg Pro Phe Leu Cys Cys Lys Cys Cys Tyr Asp
 5315 5320 5325
 His Val Ile Ser Thr Ser His Lys Leu Val Leu Ser Val Asn Pro Tyr
 5330 5335 5340
 Val Cys Asn Ala Pro Gly Cys Asp Val Thr Asp Val Thr Gln Leu Tyr
 5345 5350 5355 5360
 Leu Gly Gly Met Ser Tyr Tyr Cys Lys Ser His Lys Pro Pro Ile Ser
 5365 5370 5375
 Phe Pro Leu Cys Ala Asn Gly Gln Val Phe Gly Leu Tyr Lys Asn Thr
 5380 5385 5390
 Cys Val Gly Ser Asp Asn Val Thr Asp Phe Asn Ala Ile Ala Thr Cys
 5395 5400 5405
 Asp Trp Thr Asn Ala Gly Asp Tyr Ile Leu Ala Asn Thr Cys Thr Glu
 5410 5415 5420
 Arg Leu Lys Leu Phe Ala Ala Glu Thr Leu Lys Ala Thr Glu Glu Thr
 5425 5430 5435 5440
 Phe Lys Leu Ser Tyr Gly Ile Ala Thr Val Arg Glu Val Leu Ser Asp
 5445 5450 5455
 Arg Glu Leu His Leu Ser Trp Glu Val Gly Lys Pro Arg Pro Pro Leu
 5460 5465 5470
 Asn Arg Asn Tyr Val Phe Thr Gly Tyr Arg Val Thr Lys Asn Ser Lys
 5475 5480 5485
 Val Gln Ile Gly Glu Tyr Thr Phe Glu Lys Gly Asp Tyr Gly Asp Ala
 5490 5495 5500
 Val Val Tyr Arg Gly Thr Thr Thr Tyr Lys Leu Asn Val Gly Asp Tyr
 5505 5510 5515 5520
 Phe Val Leu Thr Ser His Thr Val Met Pro Leu Ser Ala Pro Thr Leu
 5525 5530 5535
 Val Pro Gln Glu His Tyr Val Arg Ile Thr Gly Leu Tyr Pro Thr Leu
 5540 5545 5550
 Asn Ile Ser Asp Glu Phe Ser Ser Asn Val Ala Asn Tyr Gln Lys Val
 5555 5560 5565
 Gly Met Gln Lys Tyr Ser Thr Leu Gln Gly Pro Pro Gly Thr Gly Lys
 5570 5575 5580
 Ser His Phe Ala Ile Gly Leu Ala Leu Tyr Tyr Pro Ser Ala Arg Ile
 5585 5590 5595 5600

SEQLIST-20480.TXT

Val Tyr Thr Ala Cys Ser His Ala Ala Val Asp Ala Leu Cys Glu Lys
5605 5610 5615

Ala Leu Lys Tyr Leu Pro Ile Asp Lys Cys Ser Arg Ile Ile Pro Ala
5620 5625 5630

Arg Ala Arg Val Glu Cys Phe Asp Lys Phe Lys Val Asn Ser Thr Leu
5635 5640 5645

Glu Gln Tyr Val Phe Cys Thr Val Asn Ala Leu Pro Glu Thr Thr Ala
5650 5655 5660

Asp Ile Val Val Phe Asp Glu Ile Ser Met Ala Thr Asn Tyr Asp Leu
5665 5670 5675 5680

Ser Val Val Asn Ala Arg Leu Arg Ala Lys His Tyr Val Tyr Ile Gly
5685 5690 5695

Asp Pro Ala Gln Leu Pro Ala Pro Arg Thr Leu Leu Thr Lys Gly Thr
5700 5705 5710

Leu Glu Pro Glu Tyr Phe Asn Ser Val Cys Arg Leu Met Lys Thr Ile
5715 5720 5725

Gly Pro Asp Met Phe Leu Gly Thr Cys Arg Arg Cys Pro Ala Glu Ile
5730 5735 5740

Val Asp Thr Val Ser Ala Leu Val Tyr Asp Asn Lys Leu Lys Ala His
5745 5750 5755 5760

Lys Asp Lys Ser Ala Gln Cys Phe Lys Met Phe Tyr Lys Gly Val Ile
5765 5770 5775

Thr His Asp Val Ser Ser Ala Ile Asn Arg Pro Gln Ile Gly Val Val
5780 5785 5790

Arg Glu Phe Leu Thr Arg Asn Pro Ala Trp Arg Lys Ala Val Phe Ile
5795 5800 5805

Ser Pro Tyr Asn Ser Gln Asn Ala Val Ala Ser Lys Ile Leu Gly Leu
5810 5815 5820

Pro Thr Gln Thr Val Asp Ser Ser Gln Gly Ser Glu Tyr Asp Tyr Val
5825 5830 5835 5840

Ile Phe Thr Gln Thr Thr Glu Thr Ala His Ser Cys Asn Val Asn Arg
5845 5850 5855

Phe Asn Val Ala Ile Thr Arg Ala Lys Ile Gly Ile Leu Cys Ile Met
5860 5865 5870

Ser Asp Arg Asp Leu Tyr Asp Lys Leu Gln Phe Thr Ser Leu Glu Ile
5875 5880 5885

Pro Arg Arg Asn Val Ala Thr Leu Gln Ala Glu Asn Val Thr Gly Leu
5890 5895 5900

Phe Lys Asp Cys Ser Lys Ile Ile Thr Gly Leu His Pro Thr Gln Ala
5905 5910 5915 5920

Pro Thr His Leu Ser Val Asp Ile Lys Phe Lys Thr Glu Gly Leu Cys
5925 5930 5935

SEQLIST-20480.TXT

Val Asp Ile Pro Gly Ile Pro Lys Asp Met Thr Tyr Arg Arg Leu Ile
5940 5945 5950

Ser Met Met Gly Phe Lys Met Asn Tyr Gln Val Asn Gly Tyr Pro Asn
5955 5960 5965

Met Phe Ile Thr Arg Glu Glu Ala Ile Arg His Val Arg Ala Trp Ile
5970 5975 5980

Gly Phe Asp Val Glu Gly Cys His Ala Thr Arg Asp Ala Val Gly Thr
5985 5990 6000

Asn Leu Pro Leu Gln Leu Gly Phe Ser Thr Gly Val Asn Leu Val Ala
6005 6010 6015

Val Pro Thr Gly Tyr Val Asp Thr Glu Asn Asn Thr Glu Phe Thr Arg
6020 6025 6030

Val Asn Ala Lys Pro Pro Pro Gly Asp Gln Phe Lys His Leu Ile Pro
6035 6040 6045

Leu Met Tyr Lys Gly Leu Pro Trp Asn Val Val Arg Ile Lys Ile Val
6050 6055 6060

Gln Met Leu Ser Asp Thr Leu Lys Gly Leu Ser Asp Arg Val Val Phe
6065 6070 6075 6080

Val Leu Trp Ala His Gly Phe Glu Leu Thr Ser Met Lys Tyr Phe Val
6085 6090 6095

Lys Ile Gly Pro Glu Arg Thr Cys Cys Leu Cys Asp Lys Arg Ala Thr
6100 6105 6110

Cys Phe Ser Thr Ser Ser Asp Thr Tyr Ala Cys Trp Asn His Ser Val
6115 6120 6125

Gly Phe Asp Tyr Val Tyr Asn Pro Phe Met Ile Asp Val Gln Gln Trp
6130 6135 6140

Gly Phe Thr Gly Asn Leu Gln Ser Asn His Asp Gln His Cys Gln Val
6145 6150 6155 6160

His Gly Asn Ala His Val Ala Ser Cys Asp Ala Ile Met Thr Arg Cys
6165 6170 6175

Leu Ala Val His Glu Cys Phe Val Lys Arg Val Asp Trp Ser Val Glu
6180 6185 6190

Tyr Pro Ile Ile Gly Asp Glu Leu Arg Val Asn Ser Ala Cys Arg Lys
6195 6200 6205

Val Gln His Met Val Val Lys Ser Ala Leu Leu Ala Asp Lys Phe Pro
6210 6215 6220

Val Leu His Asp Ile Gly Asn Pro Lys Ala Ile Lys Cys Val Pro Gln
6225 6230 6235 6240

Ala Glu Val Glu Trp Lys Phe Tyr Asp Ala Gln Pro Cys Ser Asp Lys
6245 6250 6255

Ala Tyr Lys Ile Glu Glu Leu Phe Tyr Ser Tyr Ala Thr His His Asp
6260 6265 6270

SEQLIST-20480.TXT

Lys Phe Thr Asp Gly Val Cys Leu Phe Trp Asn Cys Asn Val Asp Arg
 6275 6280 6285
 Tyr Pro Ala Asn Ala Ile Val Cys Arg Phe Asp Thr Arg Val Leu Ser
 6290 6295 6300
 Asn Leu Asn Leu Pro Gly Cys Asp Gly Gly Ser Leu Tyr Val Asn Lys
 6305 6310 6315 6320
 His Ala Phe His Thr Pro Ala Phe Asp Lys Ser Ala Phe Thr Asn Leu
 6325 6330 6335
 Lys Gln Leu Pro Phe Phe Tyr Tyr Ser Asp Ser Pro Cys Glu Ser His
 6340 6345 6350
 Gly Lys Gln Val Val Ser Asp Ile Asp Tyr Val Pro Leu Lys Ser Ala
 6355 6360 6365
 Thr Cys Ile Thr Arg Cys Asn Leu Gly Gly Ala Val Cys Arg His His
 6370 6375 6380
 Ala Asn Glu Tyr Arg Gln Tyr Leu Asp Ala Tyr Asn Met Met Ile Ser
 6385 6390 6395 6400
 Ala Gly Phe Ser Leu Trp Ile Tyr Lys Gln Phe Asp Thr Tyr Asn Leu
 6405 6410 6415
 Trp Asn Thr Phe Thr Arg Leu Gln Ser Leu Glu Asn Val Ala Tyr Asn
 6420 6425 6430
 Val Val Asn Lys Gly His Phe Asp Gly His Ala Gly Glu Ala Pro Val
 6435 6440 6445
 Ser Ile Ile Asn Asn Ala Val Tyr Thr Lys Val Asp Gly Ile Asp Val
 6450 6455 6460
 Glu Ile Phe Glu Asn Lys Thr Thr Leu Pro Val Asn Val Ala Phe Glu
 6465 6470 6475 6480
 Leu Trp Ala Lys Arg Asn Ile Lys Pro Val Pro Glu Ile Lys Ile Leu
 6485 6490 6495
 Asn Asn Leu Gly Val Asp Ile Ala Ala Asn Thr Val Ile Trp Asp Tyr
 6500 6505 6510
 Lys Arg Glu Ala Pro Ala His Val Ser Thr Ile Gly Val Cys Thr Met
 6515 6520 6525
 Thr Asp Ile Ala Lys Lys Pro Thr Glu Ser Ala Cys Ser Ser Leu Thr
 6530 6535 6540
 Val Leu Phe Asp Gly Arg Val Glu Gly Gln Val Asp Leu Phe Arg Asn
 6545 6550 6555 6560
 Ala Arg Asn Gly Val Leu Ile Thr Glu Gly Ser Val Lys Gly Leu Thr
 6565 6570 6575
 Pro Ser Lys Gly Pro Ala Gln Ala Ser Val Asn Gly Val Thr Leu Ile
 6580 6585 6590
 Gly Glu Ser Val Lys Thr Gln Phe Asn Tyr Phe Lys Lys Val Asp Gly
 6595 6600 6605

SEQLIST-20480.TXT

Ile Ile Gln Gln Leu Pro Glu Thr Tyr Phe Thr Gln Ser Arg Asp Leu
6610 6615 6620

Glu Asp Phe Lys Pro Arg Ser Gln Met Glu Thr Asp Phe Leu Glu Leu
6625 6630 6635 6640

Ala Met Asp Glu Phe Ile Gln Arg Tyr Lys Leu Glu Gly Tyr Ala Phe
6645 6650 6655

Glu His Ile Val Tyr Gly Asp Phe Ser His Gly Gln Leu Gly Gly Leu
6660 6665 6670

His Leu Met Ile Gly Leu Ala Lys Arg Ser Gln Asp Ser Pro Leu Lys
6675 6680 6685

Leu Glu Asp Phe Ile Pro Met Asp Ser Thr Val Lys Asn Tyr Phe Ile
6690 6695 6700

Thr Asp Ala Gln Thr Gly Ser Ser Lys Cys Val Cys Ser Val Ile Asp
6705 6710 6715 6720

Leu Leu Leu Asp Asp Phe Val Glu Ile Ile Lys Ser Gln Asp Leu Ser
6725 6730 6735

Val Ile Ser Lys Val Val Lys Val Thr Ile Asp Tyr Ala Glu Ile Ser
6740 6745 6750

Phe Met Leu Trp Cys Lys Asp Gly His Val Glu Thr Phe Tyr Pro Lys
6755 6760 6765

Leu Gln Ala Ser Arg Ala Trp Gln Pro Gly Val Ala Met Pro Asn Leu
6770 6775 6780

Tyr Lys Met Gln Arg Met Leu Leu Glu Lys Cys Asp Leu Gln Asn Tyr
6785 6790 6795 6800

Gly Glu Asn Ala Val Ile Pro Lys Gly Ile Met Met Asn Val Ala Lys
6805 6810 6815

Tyr Thr Gln Leu Cys Gln Tyr Leu Asn Thr Leu Thr Leu Ala Val Pro
6820 6825 6830

Tyr Asn Met Arg Val Ile His Phe Gly Ala Gly Ser Asp Lys Gly Val
6835 6840 6845

Ala Pro Gly Thr Ala Val Leu Arg Gln Trp Leu Pro Thr Gly Thr Leu
6850 6855 6860

Leu Val Asp Ser Asp Leu Asn Asp Phe Val Ser Asp Ala Tyr Ser Thr
6865 6870 6875 6880

Leu Ile Gly Asp Cys Ala Thr Val His Thr Ala Asn Lys Trp Asp Leu
6885 6890 6895

Ile Ile Ser Asp Met Tyr Asp Pro Arg Thr Lys His Val Thr Lys Glu
6900 6905 6910

Asn Asp Ser Lys Glu Gly Phe Phe Thr Tyr Leu Cys Gly Phe Ile Lys
6915 6920 6925

Gln Lys Leu Ala Leu Gly Gly Ser Ile Ala Val Lys Ile Thr Glu His
6930 6935 6940

SEQLIST-20480.TXT

Ser Trp Asn Ala Asp Leu Tyr Lys Leu Met Gly His Phe Ser Trp Trp
6945 6950 6955 6960
Thr Ala Phe Val Thr Asn Val Asn Ala Ser Ser Ser Glu Ala Phe Leu
6965 6970 6975
Ile Gly Ala Asn Tyr Leu Gly Lys Pro Lys Glu Gln Ile Asp Gly Tyr
6980 6985 6990
Thr Met His Ala Asn Tyr Ile Phe Trp Arg Asn Thr Asn Pro Ile Gln
6995 7000 7005
Leu Ser Ser Tyr Ser Leu Phe Asp Met Ser Lys Phe Pro Leu Lys Leu
7010 7015 7020
Arg Gly Thr Ala Val Met Ser Leu Lys Glu Asn Gln Ile Asn Asp Met
7025 7030 7035 7040
Ile Tyr Ser Leu Leu Glu Lys Gly Arg Leu Ile Ile Arg Glu Asn Asn
7045 7050 7055
Arg Val Val Val Ser Ser Asp Ile Leu Val Asn Asn
7060 7065

<210> 7249
<211> 7069
<212> PRT
<213> SARS coronavirus

<400> 7249
Met Glu Ser Leu Val Leu Gly Val Asn Glu Lys Thr His Val Gln Leu
1 5 10 15
Ser Leu Pro Val Leu Gln Val Arg Asp Val Leu Val Arg Gly Phe Gly
20 25 30
Asp Ser Val Glu Glu Ala Leu Ser Glu Ala Arg Glu His Leu Lys Asn
35 40 45
Gly Thr Cys Gly Leu Val Glu Leu Glu Lys Gly Val Leu Pro Gln Leu
50 55 60
Glu Gln Pro Tyr Val Phe Ile Lys Arg Ser Asp Ala Leu Ser Thr Asn
65 70 75 80
His Gly His Lys Val Val Glu Leu Val Ala Glu Met Asp Gly Ile Gln
85 90 95
Tyr Gly Arg Ser Gly Ile Thr Leu Gly Val Leu Val Pro His Val Gly
100 105 110
Glu Thr Pro Ile Ala Tyr Arg Asn Val Leu Leu Arg Lys Asn Gly Asn
115 120 125
Lys Gly Ala Gly Gly His Ser Tyr Gly Ile Asp Leu Lys Ser Tyr Asp
130 135 140
Leu Gly Asp Glu Leu Gly Thr Asp Pro Ile Glu Asp Tyr Glu Gln Asn
145 150 155 160
Trp Asn Thr Lys His Gly Ser Gly Ala Leu Arg Glu Leu Thr Arg Glu
165 170 175

SEQLIST-20480.TXT

Leu Asn Gly Gly Ala Val Thr Arg Tyr Val Asp Asn Asn Phe Cys Gly
 180 185 190
 Pro Asp Gly Tyr Pro Leu Asp Cys Ile Lys Asp Phe Leu Ala Arg Ala
 195 200 205
 Gly Lys Ser Met Cys Thr Leu Ser Glu Gln Leu Asp Tyr Ile Glu Ser
 210 215 220
 Lys Arg Gly Val Tyr Cys Cys Arg Asp His Glu His Glu Ile Ala Trp
 225 230 235 240
 Phe Thr Glu Arg Ser Asp Lys Ser Tyr Glu His Gln Thr Pro Phe Glu
 245 250 255
 Ile Lys Ser Ala Lys Lys Phe Asp Thr Phe Lys Gly Glu Cys Pro Lys
 260 265 270
 Phe Val Phe Pro Leu Asn Ser Lys Val Lys Val Ile Gln Pro Arg Val
 275 280 285
 Glu Lys Lys Lys Thr Glu Gly Phe Met Gly Arg Ile Arg Ser Val Tyr
 290 295 300
 Pro Val Ala Ser Pro Gln Glu Cys Asn Asn Met His Leu Ser Thr Leu
 305 310 315 320
 Met Lys Cys Asn His Cys Asp Glu Val Ser Trp Gln Thr Cys Asp Phe
 325 330 335
 Leu Lys Ala Thr Cys Glu His Cys Gly Thr Glu Asn Leu Val Ile Glu
 340 345 350
 Gly Pro Thr Thr Cys Gly Tyr Leu Pro Thr Asn Ala Val Val Lys Met
 355 360 365
 Pro Cys Pro Ala Cys Gln Asp Pro Glu Ile Gly Pro Glu His Ser Val
 370 375 380
 Ala Asp Tyr His Asn His Ser Asn Ile Glu Thr Arg Leu Arg Lys Gly
 385 390 395 400
 Gly Arg Thr Arg Cys Phe Gly Gly Cys Val Phe Ala Tyr Val Gly Cys
 405 410 415
 Tyr Asn Lys Arg Ala Tyr Trp Val Pro Arg Ala Ser Ala Asp Ile Gly
 420 425 430
 Ser Gly His Thr Gly Ile Thr Gly Asp Asn Val Glu Thr Leu Asn Glu
 435 440 445
 Asp Leu Leu Glu Ile Leu Ser Arg Glu Arg Val Asn Ile Asn Ile Val
 450 455 460
 Gly Asp Phe His Leu Asn Glu Glu Val Ala Ile Ile Leu Ala Ser Phe
 465 470 475 480
 Ser Ala Ser Thr Ser Ala Phe Ile Asp Thr Ile Lys Ser Leu Asp Tyr
 485 490 495
 Lys Ser Phe Lys Thr Ile Val Glu Ser Cys Gly Asn Tyr Lys Val Thr
 500 505 510

SEQLIST-20480.TXT

Lys Gly Lys Pro Val Lys Gly Ala Trp Asn Ile Gly Gln Gln Arg Ser
 515 520 525
 Val Leu Thr Pro Leu Cys Gly Phe Pro Ser Gln Ala Ala Gly Val Ile
 530 535 540
 Arg Ser Ile Phe Ala Arg Thr Leu Asp Ala Ala Asn His Ser Ile Pro
 545 550 555 560
 Asp Leu Gln Arg Ala Ala Val Thr Ile Leu Asp Gly Ile Ser Glu Gln
 565 570 575
 Ser Leu Arg Leu Val Asp Ala Met Val Tyr Thr Ser Asp Leu Leu Thr
 580 585 590
 Asn Ser Val Ile Ile Met Ala Tyr Val Thr Gly Gly Leu Val Gln Gln
 595 600 605
 Thr Ser Gln Trp Leu Ser Asn Leu Leu Gly Thr Thr Val Glu Lys Leu
 610 615 620
 Arg Pro Ile Phe Glu Trp Ile Glu Ala Lys Leu Ser Ala Gly Val Glu
 625 630 635 640
 Phe Leu Lys Asp Ala Trp Glu Ile Leu Lys Phe Leu Ile Thr Gly Val
 645 650 655
 Phe Asp Ile Val Lys Gly Gln Ile Gln Val Ala Ser Asp Asn Ile Lys
 660 665 670
 Asp Cys Val Lys Cys Phe Ile Asp Val Val Asn Lys Ala Leu Glu Met
 675 680 685
 Cys Ile Asp Gln Val Thr Ile Ala Gly Ala Lys Leu Arg Ser Leu Asn
 690 695 700
 Leu Gly Glu Val Phe Ile Ala Gln Ser Lys Gly Leu Tyr Arg Gln Cys
 705 710 715 720
 Ile Arg Gly Lys Glu Gln Leu Gln Leu Leu Met Pro Leu Lys Ala Pro
 725 730 735
 Lys Glu Val Thr Phe Leu Glu Gly Asp Ser His Asp Thr Val Leu Thr
 740 745 750
 Ser Glu Glu Val Val Leu Lys Asn Gly Glu Leu Glu Ala Leu Glu Thr
 755 760 765
 Pro Val Asp Ser Phe Thr Asn Gly Ala Ile Val Gly Thr Pro Val Cys
 770 775 780
 Val Asn Gly Leu Met Leu Leu Glu Ile Lys Asp Lys Glu Gln Tyr Cys
 785 790 795 800
 Ala Leu Ser Pro Gly Leu Leu Ala Thr Asn Asn Val Phe Arg Leu Lys
 805 810 815
 Gly Gly Ala Pro Ile Lys Gly Val Thr Phe Gly Glu Asp Thr Val Trp
 820 825 830
 Glu Val Gln Gly Tyr Lys Asn Val Arg Ile Thr Phe Glu Leu Asp Glu
 835 840 845

SEQLIST-20480.TXT

Arg Val Asp Lys Val Leu Asn Glu Lys Cys Ser Val Tyr Thr Val Glu
 850 855 860
 Ser Gly Thr Glu Val Thr Glu Phe Ala Cys Val Val Ala Glu Ala Val
 865 870 875 880
 Val Lys Thr Leu Gln Pro Val Ser Asp Leu Leu Thr Asn Met Gly Ile
 885 890 895
 Asp Leu Asp Glu Trp Ser Val Ala Thr Phe Tyr Leu Phe Asp Asp Ala
 900 905 910
 Gly Glu Glu Asn Phe Ser Ser Arg Met Tyr Cys Ser Phe Tyr Pro Pro
 915 920 925
 Asp Glu Glu Glu Glu Asp Asp Ala Glu Cys Glu Glu Glu Glu Ile Asp
 930 935 940
 Glu Thr Cys Glu His Glu Tyr Gly Thr Glu Asp Asp Tyr Gln Gly Leu
 945 950 955 960
 Pro Leu Glu Phe Gly Ala Ser Ala Glu Thr Val Arg Val Glu Glu Glu
 965 970 975
 Glu Glu Glu Asp Trp Leu Asp Asp Thr Thr Glu Gln Ser Glu Ile Glu
 980 985 990
 Pro Glu Pro Glu Pro Thr Pro Glu Glu Pro Val Asn Gln Phe Thr Gly
 995 1000 1005
 Tyr Leu Lys Leu Thr Asp Asn Val Ala Ile Lys Cys Val Asp Ile Val
 1010 1015 1020
 Lys Glu Ala Gln Ser Ala Asn Pro Met Val Ile Val Asn Ala Ala Asn
 1025 1030 1035 1040
 Ile His Leu Lys His Gly Gly Gly Val Ala Gly Ala Leu Asn Lys Ala
 1045 1050 1055
 Thr Asn Gly Ala Met Gln Lys Glu Ser Asp Asp Tyr Ile Lys Leu Asn
 1060 1065 1070
 Gly Pro Leu Thr Val Gly Gly Ser Cys Leu Leu Ser Gly His Asn Leu
 1075 1080 1085
 Ala Lys Lys Cys Leu His Val Val Gly Pro Asn Leu Asn Ala Gly Glu
 1090 1095 1100
 Asp Ile Gln Leu Leu Lys Ala Ala Tyr Glu Asn Phe Asn Ser Gln Asp
 1105 1110 1115 1120
 Ile Leu Leu Ala Pro Leu Leu Ser Ala Gly Ile Phe Gly Ala Lys Pro
 1125 1130 1135
 Leu Gln Ser Leu Gln Val Cys Val Gln Thr Val Arg Thr Gln Val Tyr
 1140 1145 1150
 Ile Ala Val Asn Asp Lys Ala Leu Tyr Glu Gln Val Val Met Asp Tyr
 1155 1160 1165
 Leu Asp Asn Leu Lys Pro Arg Val Glu Ala Pro Lys Gln Glu Glu Pro
 1170 1175 1180

SEQLIST-20480.TXT

Pro Asn Thr Glu Asp Ser Lys Thr Glu Glu Lys Ser Val Val Gln Lys
1185 1190 1195 1200

Pro Val Asp Val Lys Pro Lys Ile Lys Ala Cys Ile Asp Glu Val Thr
1205 1210 1215

Thr Thr Leu Glu Glu Thr Lys Phe Leu Thr Asn Lys Leu Leu Leu Phe
1220 1225 1230

Ala Asp Ile Asn Gly Lys Leu Tyr His Asp Ser Gln Asn Met Leu Arg
1235 1240 1245

Gly Glu Asp Met Ser Phe Leu Glu Lys Asp Ala Pro Tyr Met Val Gly
1250 1255 1260

Asp Val Ile Thr Ser Gly Asp Ile Thr Cys Val Val Ile Pro Ser Lys
1265 1270 1275 1280

Lys Ala Gly Gly Thr Thr Glu Met Leu Ser Arg Ala Leu Lys Lys Val
1285 1290 1295

Pro Val Asp Glu Tyr Ile Thr Thr Tyr Pro Gly Gln Gly Cys Ala Gly
1300 1305 1310

Tyr Thr Leu Glu Glu Ala Lys Thr Ala Leu Lys Lys Cys Lys Ser Ala
1315 1320 1325

Phe Tyr Val Leu Pro Ser Glu Ala Pro Asn Ala Lys Glu Glu Ile Leu
1330 1335 1340

Gly Thr Val Ser Trp Asn Leu Arg Glu Met Leu Ala His Ala Glu Glu
1345 1350 1355 1360

Thr Arg Lys Leu Met Pro Ile Cys Met Asp Val Arg Ala Ile Met Ala
1365 1370 1375

Thr Ile Gln Arg Lys Tyr Lys Gly Ile Lys Ile Gln Glu Gly Ile Val
1380 1385 1390

Asp Tyr Gly Val Arg Phe Phe Phe Tyr Thr Ser Lys Glu Pro Val Ala
1395 1400 1405

Ser Ile Ile Thr Lys Leu Asn Ser Leu Asn Glu Pro Leu Val Thr Met
1410 1415 1420

Pro Ile Gly Tyr Val Thr His Gly Phe Asn Leu Glu Glu Ala Ala Arg
1425 1430 1435 1440

Cys Met Arg Ser Leu Lys Ala Pro Ala Val Val Ser Val Ser Ser Pro
1445 1450 1455

Asp Ala Val Thr Thr Tyr Asn Gly Tyr Leu Thr Ser Ser Ser Lys Thr
1460 1465 1470

Ser Glu Glu His Phe Val Glu Thr Val Ser Leu Ala Gly Ser Tyr Arg
1475 1480 1485

Asp Trp Ser Tyr Ser Gly Gln Arg Thr Glu Leu Gly Val Glu Phe Leu
1490 1495 1500

Lys Arg Gly Asp Lys Ile Val Tyr His Thr Leu Glu Ser Pro Val Glu
1505 1510 1515 1520

SEQLIST-20480.TXT

Phe His Leu Asp Gly Glu Val Leu Ser Leu Asp Lys Leu Lys Ser Leu
 1525 1530 1535
 Leu Ser Leu Arg Glu Val Lys Thr Ile Lys Val Phe Thr Thr Val Asp
 1540 1545 1550
 Asn Thr Asn Leu His Thr Gln Leu Val Asp Met Ser Met Thr Tyr Gly
 1555 1560 1565
 Gln Gln Phe Gly Pro Thr Tyr Leu Asp Gly Ala Asp Val Thr Lys Ile
 1570 1575 1580
 Lys Pro His Val Asn His Glu Gly Lys Thr Phe Phe Val Leu Pro Ser
 1585 1590 1595 1600
 Asp Asp Thr Leu Arg Ser Glu Ala Phe Glu Tyr Tyr His Thr Leu Asp
 1605 1610 1615
 Glu Ser Phe Leu Gly Arg Tyr Met Ser Ala Leu Asn His Thr Lys Lys
 1620 1625 1630
 Trp Lys Phe Pro Gln Val Gly Gly Leu Thr Ser Ile Lys Trp Ala Asp
 1635 1640 1645
 Asn Asn Cys Tyr Leu Ser Ser Val Leu Leu Ala Leu Gln Gln Leu Glu
 1650 1655 1660
 Val Lys Phe Asn Ala Pro Ala Leu Gln Glu Ala Tyr Tyr Arg Ala Arg
 1665 1670 1675 1680
 Ala Gly Asp Ala Ala Asn Phe Cys Ala Leu Ile Leu Ala Tyr Ser Asn
 1685 1690 1695
 Lys Thr Val Gly Glu Leu Gly Asp Val Arg Glu Thr Met Thr His Leu
 1700 1705 1710
 Leu Gln His Ala Asn Leu Glu Ser Ala Lys Arg Val Leu Asn Val Val
 1715 1720 1725
 Cys Lys His Cys Gly Gln Lys Thr Thr Thr Leu Thr Gly Val Glu Ala
 1730 1735 1740
 Val Met Tyr Met Gly Thr Leu Ser Tyr Asp Asn Leu Lys Thr Gly Val
 1745 1750 1755 1760
 Ser Ile Pro Cys Val Cys Gly Arg Asp Ala Thr Gln Tyr Leu Val Gln
 1765 1770 1775
 Gln Glu Ser Ser Phe Val Met Met Ser Ala Pro Pro Ala Glu Tyr Lys
 1780 1785 1790
 Leu Gln Gln Gly Thr Phe Leu Cys Ala Asn Glu Tyr Thr Gly Asn Tyr
 1795 1800 1805
 Gln Cys Gly His Tyr Thr His Ile Thr Ala Lys Glu Thr Leu Tyr Arg
 1810 1815 1820
 Ile Asp Gly Ala His Leu Thr Lys Met Ser Glu Tyr Lys Gly Pro Val
 1825 1830 1835 1840
 Thr Asp Val Phe Tyr Lys Glu Thr Ser Tyr Thr Thr Thr Ile Lys Pro
 1845 1850 1855

SEQLIST-20480.TXT

Val Ser Tyr Lys Leu Asp Gly Val Thr Tyr Thr Glu Ile Glu Pro Lys
1860 1865 1870

Leu Asp Gly Tyr Tyr Lys Lys Asp Asn Ala Tyr Tyr Thr Glu Gln Pro
1875 1880 1885

Ile Asp Leu Val Pro Thr Gln Pro Leu Pro Asn Ala Ser Phe Asp Asn
1890 1895 1900

Phe Lys Leu Thr Cys Ser Asn Thr Lys Phe Ala Asp Asp Leu Asn Gln
1905 1910 1915 1920

Met Thr Gly Phe Thr Lys Pro Ala Ser Arg Glu Leu Ser Val Thr Phe
1925 1930 1935

Phe Pro Asp Leu Asn Gly Asp Val Val Ala Ile Asp Tyr Arg His Tyr
1940 1945 1950

Ser Ala Ser Phe Lys Lys Gly Ala Lys Leu Leu His Lys Pro Ile Val
1955 1960 1965

Trp His Ile Asn Gln Ala Thr Thr Lys Thr Thr Phe Lys Pro Asn Thr
1970 1975 1980

Trp Cys Leu Arg Cys Leu Trp Ser Thr Lys Pro Val Asp Thr Ser Asn
1985 1990 1995 2000

Ser Phe Glu Val Leu Ala Val Glu Asp Thr Gln Gly Met Asp Asn Leu
2005 2010 2015

Ala Cys Glu Ser Gln Gln Pro Thr Ser Glu Glu Val Val Glu Asn Pro
2020 2025 2030

Thr Ile Gln Lys Glu Val Ile Glu Cys Asp Val Lys Thr Thr Glu Val
2035 2040 2045

Val Gly Asn Val Ile Leu Lys Pro Ser Asp Glu Gly Val Lys Val Thr
2050 2055 2060

Gln Glu Leu Gly His Glu Asp Leu Met Ala Ala Tyr Val Glu Asn Thr
2065 2070 2075 2080

Ser Ile Thr Ile Lys Lys Pro Asn Glu Leu Ser Leu Ala Leu Gly Leu
2085 2090 2095

Lys Thr Ile Ala Thr His Gly Ile Ala Ala Ile Asn Ser Val Pro Trp
2100 2105 2110

Ser Lys Ile Leu Ala Tyr Val Lys Pro Phe Leu Gly Gln Ala Ala Ile
2115 2120 2125

Thr Thr Ser Asn Cys Ala Lys Arg Leu Ala Gln Arg Val Phe Asn Asn
2130 2135 2140

Tyr Met Pro Tyr Val Phe Thr Leu Leu Phe Gln Leu Cys Thr Phe Thr
2145 2150 2155 2160

Lys Ser Thr Asn Ser Arg Ile Arg Ala Ser Leu Pro Thr Thr Ile Ala
2165 2170 2175

Lys Asn Ser Val Lys Ser Val Ala Lys Leu Cys Leu Asp Ala Gly Ile
2180 2185 2190

SEQLIST-20480.TXT

Asn Tyr Val Lys Ser Pro Lys Phe Ser Lys Leu Phe Thr Ile Ala Met
 2195 2200 2205
 Trp Leu Leu Leu Leu Ser Ile Cys Leu Gly Ser Leu Ile Cys Val Thr
 2210 2215 2220
 Ala Ala Phe Gly Val Leu Leu Ser Asn Phe Gly Ala Pro Ser Tyr Cys
 2225 2230 2235 2240
 Asn Gly Val Arg Glu Leu Tyr Leu Asn Ser Ser Asn Val Thr Thr Met
 2245 2250 2255
 Asp Phe Cys Glu Gly Ser Phe Pro Cys Ser Ile Cys Leu Ser Gly Leu
 2260 2265 2270
 Asp Ser Leu Asp Ser Tyr Pro Ala Leu Glu Thr Ile Gln Val Thr Ile
 2275 2280 2285
 Ser Ser Tyr Lys Leu Asp Leu Thr Ile Leu Gly Leu Ala Ala Glu Trp
 2290 2295 2300
 Val Leu Ala Tyr Met Leu Phe Thr Lys Phe Phe Tyr Leu Leu Gly Leu
 2305 2310 2315 2320
 Ser Ala Ile Met Gln Val Phe Phe Gly Tyr Phe Ala Ser His Phe Ile
 2325 2330 2335
 Ser Asn Ser Trp Leu Met Trp Phe Ile Ile Ser Ile Val Gln Met Ala
 2340 2345 2350
 Pro Val Ser Ala Met Val Arg Met Tyr Ile Phe Phe Ala Ser Phe Tyr
 2355 2360 2365
 Tyr Ile Trp Lys Ser Tyr Val His Ile Met Asp Gly Cys Thr Ser Ser
 2370 2375 2380
 Thr Cys Met Met Cys Tyr Lys Arg Asn Arg Ala Thr Arg Val Glu Cys
 2385 2390 2400
 Thr Thr Ile Val Asn Gly Met Lys Arg Ser Phe Tyr Val Tyr Ala Asn
 2405 2410 2415
 Gly Gly Arg Gly Phe Cys Lys Thr His Asn Trp Asn Cys Leu Asn Cys
 2420 2425 2430
 Asp Thr Phe Cys Thr Gly Ser Thr Phe Ile Ser Asp Glu Val Ala Arg
 2435 2440 2445
 Asp Leu Ser Leu Gln Phe Lys Arg Pro Ile Asn Pro Thr Asp Gln Ser
 2450 2455 2460
 Ser Tyr Ile Val Asp Ser Val Ala Val Lys Asn Gly Ala Leu His Leu
 2465 2470 2475 2480
 Tyr Phe Asp Lys Ala Gly Gln Lys Thr Tyr Glu Arg His Pro Leu Ser
 2485 2490 2495
 His Phe Val Asn Leu Asp Asn Leu Arg Ala Asn Asn Thr Lys Gly Ser
 2500 2505 2510
 Leu Pro Ile Asn Val Ile Val Phe Asp Gly Lys Ser Lys Cys Asp Glu
 2515 2520 2525

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Ser Ala Ser Lys Ser Ala Ser Val Tyr Tyr Ser Gln Leu Met Cys Gln
2530 2535 2540

Pro Ile Leu Leu Leu Asp Gln Ala Leu Val Ser Asp Val Gly Asp Ser
2545 2550 2555 2560

Thr Glu Val Ser Val Lys Met Phe Asp Ala Tyr Val Asp Thr Phe Ser
2565 2570 2575

Ala Thr Phe Ser Val Pro Met Glu Lys Leu Lys Ala Leu Val Ala Thr
2580 2585 2590

Ala His Ser Glu Leu Ala Lys Gly Val Ala Leu Asp Gly Val Leu Ser
2595 2600 2605

Thr Phe Val Ser Ala Ala Arg Gln Gly Val Val Asp Thr Asp Val Asp
2610 2615 2620

Thr Lys Asp Val Ile Glu Cys Leu Lys Leu Ser His His Ser Asp Leu
2625 2630 2635 2640

Glu Val Thr Gly Asp Ser Cys Asn Asn Phe Met Leu Thr Tyr Asn Lys
2645 2650 2655

Val Glu Asn Met Thr Pro Arg Asp Leu Gly Ala Cys Ile Asp Cys Asn
2660 2665 2670

Ala Arg His Ile Asn Ala Gln Val Ala Lys Ser His Asn Val Ser Leu
2675 2680 2685

Ile Trp Asn Val Lys Asp Tyr Met Ser Leu Ser Glu Gln Leu Arg Lys
2690 2695 2700

Gln Ile Arg Ser Ala Ala Lys Lys Asn Asn Ile Pro Phe Arg Leu Thr
2705 2710 2715 2720

Cys Ala Thr Thr Arg Gln Val Val Asn Val Ile Thr Thr Lys Ile Ser
2725 2730 2735

Leu Lys Gly Gly Lys Ile Val Ser Thr Cys Phe Lys Leu Met Leu Lys
2740 2745 2750

Ala Thr Leu Leu Cys Val Leu Ala Ala Leu Val Cys Tyr Ile Val Met
2755 2760 2765

Pro Val His Thr Leu Ser Ile His Asp Gly Tyr Thr Asn Glu Ile Ile
2770 2775 2780

Gly Tyr Lys Ala Ile Gln Asp Gly Val Thr Arg Asp Ile Ile Ser Thr
2785 2790 2795 2800

Asp Asp Cys Phe Ala Asn Lys His Ala Gly Phe Asp Ala Trp Phe Ser
2805 2810 2815

Gln Arg Gly Gly Ser Tyr Lys Asn Asp Lys Ser Cys Pro Val Val Ala
2820 2825 2830

Ala Ile Ile Thr Arg Glu Ile Gly Phe Ile Val Pro Gly Leu Pro Gly
2835 2840 2845

Thr Val Leu Arg Ala Ile Asn Gly Asp Phe Leu His Phe Leu Pro Arg
2850 2855 2860

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Val Phe Ser Ala Val Gly Asn Ile Cys Tyr Thr Pro Ser Lys Leu Ile
2865 2870 2875 2880

Glu Tyr Ser Asp Phe Ala Thr Ser Ala Cys Val Leu Ala Ala Glu Cys
2885 2890 2895

Thr Ile Phe Lys Asp Ala Met Gly Lys Pro Val Pro Tyr Cys Tyr Asp
2900 2905 2910

Thr Asn Leu Leu Glu Gly Ser Ile Ser Tyr Ser Glu Leu Arg Pro Asp
2915 2920 2925

Thr Arg Tyr Val Leu Met Asp Gly Ser Ile Ile Gln Phe Pro Asn Thr
2930 2935 2940

Tyr Leu Glu Gly Ser Val Arg Val Val Thr Thr Phe Asp Ala Glu Tyr
2945 2950 2955 2960

Cys Arg His Gly Thr Cys Glu Arg Ser Glu Val Gly Ile Cys Leu Ser
2965 2970 2975

Thr Ser Gly Arg Trp Val Leu Asn Asn Glu His Tyr Arg Ala Leu Ser
2980 2985 2990

Gly Val Phe Cys Gly Val Asp Ala Met Asn Leu Ile Ala Asn Ile Phe
2995 3000 3005

Thr Pro Leu Val Gln Pro Val Gly Ala Leu Asp Val Ser Ala Ser Val
3010 3015 3020

Val Ala Gly Gly Ile Ile Ala Ile Leu Val Thr Cys Ala Ala Tyr Tyr
3025 3030 3035 3040

Phe Met Lys Phe Arg Arg Val Phe Gly Glu Tyr Asn His Val Val Ala
3045 3050 3055

Ala Asn Ala Leu Leu Phe Leu Met Ser Phe Thr Ile Leu Cys Leu Val
3060 3065 3070

Pro Ala Tyr Ser Phe Leu Pro Gly Val Tyr Ser Val Phe Tyr Leu Tyr
3075 3080 3085

Leu Thr Phe Tyr Phe Thr Asn Asp Val Ser Phe Leu Ala His Leu Gln
3090 3095 3100

Trp Phe Ala Met Phe Ser Pro Ile Val Pro Phe Trp Ile Thr Ala Ile
3105 3110 3115 3120

Tyr Val Phe Cys Ile Ser Leu Lys His Cys His Trp Phe Phe Asn Asn
3125 3130 3135

Tyr Leu Arg Lys Arg Val Met Phe Asn Gly Val Thr Phe Ser Thr Phe
3140 3145 3150

Glu Glu Ala Ala Leu Cys Thr Phe Leu Leu Asn Lys Glu Met Tyr Leu
3155 3160 3165

Lys Leu Arg Ser Glu Thr Leu Leu Pro Leu Thr Gln Tyr Asn Arg Tyr
3170 3175 3180

Leu Ala Leu Tyr Asn Lys Tyr Lys Tyr Phe Ser Gly Ala Leu Asp Thr
3185 3190 3195 3200

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Thr Ser Tyr Arg Glu Ala Ala Cys Cys His Leu Ala Lys Ala Leu Asn
3205 3210 3215

Asp Phe Ser Asn Ser Gly Ala Asp Val Leu Tyr Gln Pro Pro Gln Thr
3220 3225 3230

Ser Ile Thr Ser Ala Val Leu Gln Ser Gly Phe Arg Lys Met Ala Phe
3235 3240 3245

Pro Ser Gly Lys Val Glu Gly Cys Met Val Gln Val Thr Cys Gly Thr
3250 3255 3260

Thr Thr Leu Asn Gly Leu Trp Leu Asp Asp Thr Val Tyr Cys Pro Arg
3265 3270 3275 3280

His Val Ile Cys Thr Ala Glu Asp Met Leu Asn Pro Asn Tyr Glu Asp
3285 3290 3295

Leu Leu Ile Arg Lys Ser Asn His Ser Phe Leu Val Gln Ala Gly Asn
3300 3305 3310

Val Gln Leu Arg Val Ile Gly His Ser Met Gln Asn Cys Leu Leu Arg
3315 3320 3325

Leu Lys Val Asp Thr Ser Asn Pro Lys Thr Pro Lys Tyr Lys Phe Val
3330 3335 3340

Arg Ile Gln Pro Gly Gln Thr Phe Ser Val Leu Ala Cys Tyr Asn Gly
3345 3350 3355 3360

Ser Pro Ser Gly Val Tyr Gln Cys Ala Met Arg Pro Asn His Thr Ile
3365 3370 3375

Lys Gly Ser Phe Leu Asn Gly Ser Cys Gly Ser Val Gly Phe Asn Ile
3380 3385 3390

Asp Tyr Asp Cys Val Ser Phe Cys Tyr Met His His Met Glu Leu Pro
3395 3400 3405

Thr Gly Val His Ala Gly Thr Asp Leu Glu Gly Lys Phe Tyr Gly Pro
3410 3415 3420

Phe Val Asp Arg Gln Thr Ala Gln Ala Ala Gly Thr Asp Thr Thr Ile
3425 3430 3435 3440

Thr Leu Asn Val Leu Ala Trp Leu Tyr Ala Ala Val Ile Asn Gly Asp
3445 3450 3455

Arg Trp Phe Leu Asn Arg Phe Thr Thr Thr Leu Asn Asp Phe Asn Leu
3460 3465 3470

Val Ala Met Lys Tyr Asn Tyr Glu Pro Leu Thr Gln Asp His Val Asp
3475 3480 3485

Ile Leu Gly Pro Leu Ser Ala Gln Thr Gly Ile Ala Val Leu Asp Met
3490 3495 3500

Cys Ala Ala Leu Lys Glu Leu Leu Gln Asn Gly Met Asn Gly Arg Thr
3505 3510 3515 3520

Ile Leu Gly Ser Thr Ile Leu Glu Asp Glu Phe Thr Pro Phe Asp Val
3525 3530 3535

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Val Arg Gln Cys Ser Gly Val Thr Phe Gln Gly Lys Phe Lys Lys Ile
3540 3545 3550

Val Lys Gly Thr His His Trp Met Leu Leu Thr Phe Leu Thr Ser Leu
3555 3560 3565

Leu Ile Leu Val Gln Ser Thr Gln Trp Ser Leu Phe Phe Phe Val Tyr
3570 3575 3580

Glu Asn Ala Phe Leu Pro Phe Thr Leu Gly Ile Met Ala Ile Ala Ala
3585 3590 3600

Cys Ala Met Leu Leu Val Lys His Lys His Ala Phe Leu Cys Leu Phe
3605 3610 3615

Leu Leu Pro Ser Leu Ala Thr Val Ala Tyr Phe Asn Met Val Tyr Met
3620 3625 3630

Pro Ala Ser Trp Val Met Arg Ile Met Thr Trp Leu Glu Leu Ala Asp
3635 3640 3645

Thr Ser Leu Ser Gly Tyr Arg Leu Lys Asp Cys Val Met Tyr Ala Ser
3650 3655 3660

Ala Leu Val Leu Leu Ile Leu Met Thr Ala Arg Thr Val Tyr Asp Asp
3665 3670 3675 3680

Ala Ala Arg Arg Val Trp Thr Leu Met Asn Val Ile Thr Leu Val Tyr
3685 3690 3695

Lys Val Tyr Tyr Gly Asn Ala Leu Asp Gln Ala Ile Ser Met Trp Ala
3700 3705 3710

Leu Val Ile Ser Val Thr Ser Asn Tyr Ser Gly Val Val Thr Thr Ile
3715 3720 3725

Met Phe Leu Ala Arg Ala Ile Val Phe Val Cys Val Glu Tyr Tyr Pro
3730 3735 3740

Leu Leu Phe Ile Thr Gly Asn Thr Leu Gln Cys Ile Met Leu Val Tyr
3745 3750 3755 3760

Cys Phe Leu Gly Tyr Cys Cys Cys Cys Tyr Phe Gly Leu Phe Cys Leu
3765 3770 3775

Leu Asn Arg Tyr Phe Arg Leu Thr Leu Gly Val Tyr Asp Tyr Leu Val
3780 3785 3790

Ser Thr Gln Glu Phe Arg Tyr Met Asn Ser Gln Gly Leu Leu Pro Pro
3795 3800 3805

Lys Ser Ser Ile Asp Ala Phe Lys Leu Asn Ile Lys Leu Leu Gly Ile
3810 3815 3820

Gly Gly Lys Pro Cys Ile Lys Val Ala Thr Val Gln Ser Lys Met Ser
3825 3830 3835 3840

Asp Val Lys Cys Thr Ser Val Val Leu Leu Ser Val Leu Gln Gln Leu
3845 3850 3855

Arg Val Glu Ser Ser Ser Lys Leu Trp Ala Gln Cys Val Gln Leu His
3860 3865 3870

SEQLIST-20480.TXT

Asn Asp Ile Leu Leu Ala Lys Asp Thr Thr Glu Ala Phe Glu Lys Met
3875 3880 3885

Val Ser Leu Leu Ser Val Leu Leu Ser Met Gln Gly Ala Val Asp Ile
3890 3895 3900

Asn Arg Leu Cys Glu Glu Met Leu Asp Asn Arg Ala Thr Leu Gln Ala
3905 3910 3915 3920

Ile Ala Ser Glu Phe Ser Ser Leu Pro Ser Tyr Ala Ala Tyr Ala Thr
3925 3930 3935

Ala Gln Glu Ala Tyr Glu Gln Ala Val Ala Asn Gly Asp Ser Glu Val
3940 3945 3950

Val Leu Lys Lys Leu Lys Lys Ser Leu Asn Val Ala Lys Ser Glu Phe
3955 3960 3965

Asp Arg Asp Ala Ala Met Gln Arg Lys Leu Glu Lys Met Ala Asp Gln
3970 3975 3980

Ala Met Thr Gln Met Tyr Lys Gln Ala Arg Ser Glu Asp Lys Arg Ala
3985 3990 3995 4000

Lys Val Thr Ser Ala Met Gln Thr Met Leu Phe Thr Met Leu Arg Lys
4005 4010 4015

Leu Asp Asn Asp Ala Leu Asn Asn Ile Ile Asn Asn Ala Arg Asp Gly
4020 4025 4030

Cys Val Pro Leu Asn Ile Ile Pro Leu Thr Thr Ala Ala Lys Leu Met
4035 4040 4045

Val Val Val Pro Asp Tyr Gly Thr Tyr Lys Asn Thr Cys Asp Gly Asn
4050 4055 4060

Thr Phe Thr Tyr Ala Ser Ala Leu Trp Glu Ile Gln Gln Val Val Asp
4065 4070 4075 4080

Ala Asp Ser Lys Ile Val Gln Leu Ser Glu Ile Asn Met Asp Asn Ser
4085 4090 4095

Pro Asn Leu Ala Trp Pro Leu Ile Val Thr Ala Leu Arg Ala Asn Ser
4100 4105 4110

Ala Val Lys Leu Gln Asn Asn Glu Leu Ser Pro Val Ala Leu Arg Gln
4115 4120 4125

Met Ser Cys Ala Ala Gly Thr Thr Gln Thr Ala Cys Thr Asp Asp Asn
4130 4135 4140

Ala Leu Ala Tyr Tyr Asn Asn Ser Lys Gly Gly Arg Phe Val Leu Ala
4145 4150 4155 4160

Leu Leu Ser Asp His Gln Asp Leu Lys Trp Ala Arg Phe Pro Lys Ser
4165 4170 4175

Asp Gly Thr Gly Thr Ile Tyr Thr Glu Leu Glu Pro Pro Cys Arg Phe
4180 4185 4190

Val Thr Asp Thr Pro Lys Gly Pro Lys Val Lys Tyr Leu Tyr Phe Ile
4195 4200 4205

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Lys Gly Leu Asn Asn Leu Asn Arg Gly Met Val Leu Gly Ser Leu Ala
 4210 4215 4220
 Ala Thr Val Arg Leu Gln Ala Gly Asn Ala Thr Glu Val Pro Ala Asn
 4225 4230 4235 4240
 Ser Thr Val Leu Ser Phe Cys Ala Phe Ala Val Asp Pro Ala Lys Ala
 4245 4250 4255
 Tyr Lys Asp Tyr Leu Ala Ser Gly Gly Gln Pro Ile Thr Asn Cys Val
 4260 4265 4270
 Lys Met Leu Cys Thr His Thr Gly Thr Gly Gln Ala Ile Thr Val Thr
 4275 4280 4285
 Pro Glu Ala Asn Met Asp Gln Glu Ser Phe Gly Gly Ala Ser Cys Cys
 4290 4295 4300
 Leu Tyr Cys Arg Cys His Ile Asp His Pro Asn Pro Lys Gly Phe Cys
 4305 4310 4315 4320
 Asp Leu Lys Gly Lys Tyr Val Gln Ile Pro Thr Thr Cys Ala Asn Asp
 4325 4330 4335
 Pro Val Gly Phe Thr Leu Arg Asn Thr Val Cys Thr Val Cys Gly Met
 4340 4345 4350
 Trp Lys Gly Tyr Gly Cys Ser Cys Asp Gln Leu Arg Glu Pro Leu Met
 4355 4360 4365
 Gln Ser Ala Asp Ala Ser Thr Phe Leu Gly Val Ser Ala Ala Arg Leu
 4370 4375 4380
 Thr Pro Cys Gly Thr Gly Thr Ser Thr Asp Val Val Tyr Arg Ala Phe
 4385 4390 4395 4400
 Asp Ile Tyr Asn Glu Lys Val Ala Gly Phe Ala Lys Phe Leu Lys Thr
 4405 4410 4415
 Asn Cys Cys Arg Phe Gln Glu Lys Asp Glu Glu Gly Asn Leu Leu Asp
 4420 4425 4430
 Ser Tyr Phe Val Val Lys Arg His Thr Met Ser Asn Tyr Gln His Glu
 4435 4440 4445
 Glu Thr Ile Tyr Asn Leu Val Lys Asp Cys Pro Ala Val Ala Val His
 4450 4455 4460
 Asp Phe Phe Lys Phe Arg Val Asp Gly Asp Met Val Pro His Ile Ser
 4465 4470 4475 4480
 Arg Gln Arg Leu Thr Lys Tyr Thr Met Ala Asp Leu Val Tyr Ala Leu
 4485 4490 4495
 Arg His Phe Asp Glu Gly Asn Cys Asp Thr Leu Lys Glu Ile Leu Val
 4500 4505 4510
 Thr Tyr Asn Cys Cys Asp Asp Asp Tyr Phe Asn Lys Lys Asp Trp Tyr
 4515 4520 4525
 Asp Phe Val Glu Asn Pro Asp Ile Leu Arg Val Tyr Ala Asn Leu Gly
 4530 4535 4540

SEQLIST-20480.TXT

Glu Arg Val Arg Gln Ser Leu Leu Lys Thr Val Gln Phe Cys Asp Ala
 4545 4550 4555 4560
 Met Arg Asp Ala Gly Ile Val Gly Val Leu Thr Leu Asp Asn Gln Asp
 4565 4570 4575
 Leu Asn Gly Asn Trp Tyr Asp Phe Gly Asp Phe Val Gln Val Ala Pro
 4580 4585 4590
 Gly Cys Gly Val Pro Ile Val Asp Ser Tyr Tyr Ser Leu Leu Met Pro
 4595 4600 4605
 Ile Leu Thr Leu Thr Arg Ala Leu Ala Ala Glu Ser His Met Asp Ala
 4610 4615 4620
 Asp Leu Ala Lys Pro Leu Ile Lys Trp Asp Leu Leu Lys Tyr Asp Phe
 4625 4630 4635 4640
 Thr Glu Glu Arg Leu Cys Leu Phe Asp Arg Tyr Phe Lys Tyr Trp Asp
 4645 4650 4655
 Gln Thr Tyr His Pro Asn Cys Ile Asn Cys Leu Asp Asp Arg Cys Ile
 4660 4665 4670
 Leu His Cys Ala Asn Phe Asn Val Leu Phe Ser Thr Val Phe Pro Pro
 4675 4680 4685
 Thr Ser Phe Gly Pro Leu Val Arg Lys Ile Phe Val Asp Gly Val Pro
 4690 4695 4700
 Phe Val Val Ser Thr Gly Tyr His Phe Arg Glu Leu Gly Val Val His
 4705 4710 4715 4720
 Asn Gln Asp Val Asn Leu His Ser Ser Arg Leu Ser Phe Lys Glu Leu
 4725 4730 4735
 Leu Val Tyr Ala Ala Asp Pro Ala Met His Ala Ala Ser Gly Asn Leu
 4740 4745 4750
 Leu Leu Asp Lys Arg Thr Thr Cys Phe Ser Val Ala Ala Leu Thr Asn
 4755 4760 4765
 Asn Val Ala Phe Gln Thr Val Lys Pro Gly Asn Phe Asn Lys Asp Phe
 4770 4775 4780
 Tyr Asp Phe Ala Val Ser Lys Gly Phe Phe Lys Glu Gly Ser Ser Val
 4785 4790 4795 4800
 Glu Leu Lys His Phe Phe Phe Ala Gln Asp Gly Asn Ala Ala Ile Ser
 4805 4810 4815
 Asp Tyr Asp Tyr Tyr Arg Tyr Asn Leu Pro Thr Met Cys Asp Ile Arg
 4820 4825 4830
 Gln Leu Leu Phe Val Val Glu Val Val Asp Lys Tyr Phe Asp Cys Tyr
 4835 4840 4845
 Asp Gly Gly Cys Ile Asn Ala Asn Gln Val Ile Val Asn Asn Leu Asp
 4850 4855 4860
 Lys Ser Ala Gly Phe Pro Phe Asn Lys Trp Gly Lys Ala Arg Leu Tyr
 4865 4870 4875 4880

SEQLIST-20480.TXT

Tyr Asp Ser Met Ser Tyr Glu Asp Gln Asp Ala Leu Phe Ala Tyr Thr
 4885 4890 4895
 Lys Arg Asn Val Ile Pro Thr Ile Thr Gln Met Asn Leu Lys Tyr Ala
 4900 4905 4910
 Ile Ser Ala Lys Asn Arg Ala Arg Thr Val Ala Gly Val Ser Ile Cys
 4915 4920 4925
 Ser Thr Met Thr Asn Arg Gln Phe His Gln Lys Leu Leu Lys Ser Ile
 4930 4935 4940
 Ala Ala Thr Arg Gly Ala Thr Val Val Ile Gly Thr Ser Lys Phe Tyr
 4945 4950 4955 4960
 Gly Gly Trp His Asn Met Leu Lys Thr Val Tyr Ser Asp Val Glu Thr
 4965 4970 4975
 Pro His Leu Met Gly Trp Asp Tyr Pro Lys Cys Asp Arg Ala Met Pro
 4980 4985 4990
 Asn Met Leu Arg Ile Met Ala Ser Leu Val Leu Ala Arg Lys His Asn
 4995 5000 5005
 Thr Cys Cys Asn Leu Ser His Arg Phe Tyr Arg Leu Ala Asn Glu Cys
 5010 5015 5020
 Ala Gln Val Leu Ser Glu Met Val Met Cys Gly Gly Ser Leu Tyr Val
 5025 5030 5035 5040
 Lys Pro Gly Gly Thr Ser Ser Gly Asp Ala Thr Thr Ala Tyr Ala Asn
 5045 5050 5055
 Ser Val Phe Asn Ile Cys Gln Ala Val Thr Ala Asn Val Asn Ala Leu
 5060 5065 5070
 Leu Ser Thr Asp Gly Asn Lys Ile Ala Asp Lys Tyr Val Arg Asn Leu
 5075 5080 5085
 Gln His Arg Leu Tyr Glu Cys Leu Tyr Arg Asn Arg Asp Val Asp His
 5090 5095 5100
 Glu Phe Val Asp Glu Phe Tyr Ala Tyr Leu Arg Lys His Phe Ser Met
 5105 5110 5115 5120
 Met Ile Leu Ser Asp Asp Ala Val Val Cys Tyr Asn Ser Asn Tyr Ala
 5125 5130 5135
 Ala Gln Gly Leu Val Ala Ser Ile Lys Asn Phe Lys Ala Val Leu Tyr
 5140 5145 5150
 Tyr Gln Asn Asn Val Phe Met Ser Glu Ala Lys Cys Trp Thr Glu Thr
 5155 5160 5165
 Asp Leu Thr Lys Gly Pro His Glu Phe Cys Ser Gln His Thr Met Leu
 5170 5175 5180
 Val Lys Gln Gly Asp Asp Tyr Val Tyr Leu Pro Tyr Pro Asp Pro Ser
 5185 5190 5195 5200
 Arg Ile Leu Gly Ala Gly Cys Phe Val Asp Asp Ile Val Lys Thr Asp
 5205 5210 5215

SEQLIST-20480.TXT

Gly Thr Leu Met Ile Glu Arg Phe Val Ser Leu Ala Ile Asp Ala Tyr
5220 5225 5230

Pro Leu Thr Lys His Pro Asn Gln Glu Tyr Ala Asp Val Phe His Leu
5235 5240 5245

Tyr Leu Gln Tyr Ile Arg Lys Leu His Asp Glu Leu Thr Gly His Met
5250 5255 5260

Leu Asp Met Tyr Ser Val Met Leu Thr Asn Asp Asn Thr Ser Arg Tyr
5265 5270 5275 5280

Trp Glu Pro Glu Phe Tyr Glu Ala Met Tyr Thr Pro His Thr Val Leu
5285 5290 5295

Gln Ala Val Gly Ala Cys Val Leu Cys Asn Ser Gln Thr Ser Leu Arg
5300 5305 5310

Cys Gly Ala Cys Ile Arg Arg Pro Phe Leu Cys Cys Lys Cys Cys Tyr
5315 5320 5325

Asp His Val Ile Ser Thr Ser His Lys Leu Val Leu Ser Val Asn Pro
5330 5335 5340

Tyr Val Cys Asn Ala Pro Gly Cys Asp Val Thr Asp Val Thr Gln Leu
5345 5350 5355 5360

Tyr Leu Gly Gly Met Ser Tyr Tyr Cys Lys Ser His Lys Pro Pro Ile
5365 5370 5375

Ser Phe Pro Leu Cys Ala Asn Gly Gln Val Phe Gly Leu Tyr Lys Asn
5380 5385 5390

Thr Cys Val Gly Ser Asp Asn Val Thr Asp Phe Asn Ala Ile Ala Thr
5395 5400 5405

Cys Asp Trp Thr Asn Ala Gly Asp Tyr Ile Leu Ala Asn Thr Cys Thr
5410 5415 5420

Glu Arg Leu Lys Leu Phe Ala Ala Glu Thr Leu Lys Ala Thr Glu Glu
5425 5430 5435 5440

Thr Phe Lys Leu Ser Tyr Gly Ile Ala Thr Val Arg Glu Val Leu Ser
5445 5450 5455

Asp Arg Glu Leu His Leu Ser Trp Glu Val Gly Lys Pro Arg Pro Pro
5460 5465 5470

Leu Asn Arg Asn Tyr Val Phe Thr Gly Tyr Arg Val Thr Lys Asn Ser
5475 5480 5485

Lys Val Gln Ile Gly Glu Tyr Thr Phe Glu Lys Gly Asp Tyr Gly Asp
5490 5495 5500

Ala Val Val Tyr Arg Gly Thr Thr Thr Tyr Lys Leu Asn Val Gly Asp
5505 5510 5515 5520

Tyr Phe Val Leu Thr Ser His Thr Val Met Pro Leu Ser Ala Pro Thr
5525 5530 5535

Leu Val Pro Gln Glu His Tyr Val Arg Ile Thr Gly Leu Tyr Pro Thr
5540 5545 5550

SEQLIST-20480.TXT

Leu Asn Ile Ser Asp Glu Phe Ser Ser Asn Val Ala Asn Tyr Gln Lys
 5555 5560 5565
 Val Gly Met Gln Lys Tyr Ser Thr Leu Gln Gly Pro Pro Gly Thr Gly
 5570 5575 5580
 Lys Ser His Phe Ala Ile Gly Leu Ala Leu Tyr Tyr Pro Ser Ala Arg
 5585 5590 5595 5600
 Ile Val Tyr Thr Ala Cys Ser His Ala Ala Val Asp Ala Leu Cys Glu
 5605 5610 5615
 Lys Ala Leu Lys Tyr Leu Pro Ile Asp Lys Cys Ser Arg Ile Ile Pro
 5620 5625 5630
 Ala Arg Ala Arg Val Glu Cys Phe Asp Lys Phe Lys Val Asn Ser Thr
 5635 5640 5645
 Leu Glu Gln Tyr Val Phe Cys Thr Val Asn Ala Leu Pro Glu Thr Thr
 5650 5655 5660
 Ala Asp Ile Val Val Phe Asp Glu Ile Ser Met Ala Thr Asn Tyr Asp
 5665 5670 5675 5680
 Leu Ser Val Val Asn Ala Arg Leu Arg Ala Lys His Tyr Val Tyr Ile
 5685 5690 5695
 Gly Asp Pro Ala Gln Leu Pro Ala Pro Arg Thr Leu Leu Thr Lys Gly
 5700 5705 5710
 Thr Leu Glu Pro Glu Tyr Phe Asn Ser Val Cys Arg Leu Met Lys Thr
 5715 5720 5725
 Ile Gly Pro Asp Met Phe Leu Gly Thr Cys Arg Arg Cys Pro Ala Glu
 5730 5735 5740
 Ile Val Asp Thr Val Ser Ala Leu Val Tyr Asp Asn Lys Leu Lys Ala
 5745 5750 5755 5760
 His Lys Asp Lys Ser Ala Gln Cys Phe Lys Met Phe Tyr Lys Gly Val
 5765 5770 5775
 Ile Thr His Asp Val Ser Ser Ala Ile Asn Arg Pro Gln Ile Gly Val
 5780 5785 5790
 Val Arg Glu Phe Leu Thr Arg Asn Pro Ala Trp Arg Lys Ala Val Phe
 5795 5800 5805
 Ile Ser Pro Tyr Asn Ser Gln Asn Ala Val Ala Ser Lys Ile Leu Gly
 5810 5815 5820
 Leu Pro Thr Gln Thr Val Asp Ser Ser Gln Gly Ser Glu Tyr Asp Tyr
 5825 5830 5835 5840
 Val Ile Phe Thr Gln Thr Thr Glu Thr Ala His Ser Cys Asn Val Asn
 5845 5850 5855
 Arg Phe Asn Val Ala Ile Thr Arg Ala Lys Ile Gly Ile Leu Cys Ile
 5860 5865 5870
 Met Ser Asp Arg Asp Leu Tyr Asp Lys Leu Gln Phe Thr Ser Leu Glu
 5875 5880 5885

SEQLIST-20480.TXT

Ile Pro Arg Arg Asn Val Ala Thr Leu Gln Ala Glu Asn Val Thr Gly
5890 5895 5900

Leu Phe Lys Asp Cys Ser Lys Ile Ile Thr Gly Leu His Pro Thr Gln
5905 5910 5915 5920

Ala Pro Thr His Leu Ser Val Asp Ile Lys Phe Lys Thr Glu Gly Leu
5925 5930 5935

Cys Val Asp Ile Pro Gly Ile Pro Lys Asp Met Thr Tyr Arg Arg Leu
5940 5945 5950

Ile Ser Met Met Gly Phe Lys Met Asn Tyr Gln Val Asn Gly Tyr Pro
5955 5960 5965

Asn Met Phe Ile Thr Arg Glu Glu Ala Ile Arg His Val Arg Ala Trp
5970 5975 5980

Ile Gly Phe Asp Val Glu Gly Cys His Ala Thr Arg Asp Ala Val Gly
5985 5990 5995 6000

Thr Asn Leu Pro Leu Gln Leu Gly Phe Ser Thr Gly Val Asn Leu Val
6005 6010 6015

Ala Val Pro Thr Gly Tyr Val Asp Thr Glu Asn Asn Thr Glu Phe Thr
6020 6025 6030

Arg Val Asn Ala Lys Pro Pro Pro Gly Asp Gln Phe Lys His Leu Ile
6035 6040 6045

Pro Leu Met Tyr Lys Gly Leu Pro Trp Asn Val Val Arg Ile Lys Ile
6050 6055 6060

Val Gln Met Leu Ser Asp Thr Leu Lys Gly Leu Ser Asp Arg Val Val
6065 6070 6075 6080

Phe Val Leu Trp Ala His Gly Phe Glu Leu Thr Ser Met Lys Tyr Phe
6085 6090 6095

Val Lys Ile Gly Pro Glu Arg Thr Cys Cys Leu Cys Asp Lys Arg Ala
6100 6105 6110

Thr Cys Phe Ser Thr Ser Ser Asp Thr Tyr Ala Cys Trp Asn His Ser
6115 6120 6125

Val Gly Phe Asp Tyr Val Tyr Asn Pro Phe Met Ile Asp Val Gln Gln
6130 6135 6140

Trp Gly Phe Thr Gly Asn Leu Gln Ser Asn His Asp Gln His Cys Gln
6145 6150 6155 6160

Val His Gly Asn Ala His Val Ala Ser Cys Asp Ala Ile Met Thr Arg
6165 6170 6175

Cys Leu Ala Val His Glu Cys Phe Val Lys Arg Val Asp Trp Ser Val
6180 6185 6190

Glu Tyr Pro Ile Ile Gly Asp Glu Leu Arg Val Asn Ser Ala Cys Arg
6195 6200 6205

Lys Val Gln His Met Val Val Lys Ser Ala Leu Leu Ala Asp Lys Phe
6210 6215 6220

SEQLIST-20480.TXT

Pro Val Leu His Asp Ile Gly Asn Pro Lys Ala Ile Lys Cys Val Pro
6225 6230 6235 6240

Gln Ala Glu Val Glu Trp Lys Phe Tyr Asp Ala Gln Pro Cys Ser Asp
6245 6250 6255

Lys Ala Tyr Lys Ile Glu Glu Leu Phe Tyr Ser Tyr Ala Thr His His
6260 6265 6270

Asp Lys Phe Thr Asp Gly Val Cys Leu Phe Trp Asn Cys Asn Val Asp
6275 6280 6285

Arg Tyr Pro Ala Asn Ala Ile Val Cys Arg Phe Asp Thr Arg Val Leu
6290 6295 6300

Ser Asn Leu Asn Leu Pro Gly Cys Asp Gly Gly Ser Leu Tyr Val Asn
6305 6310 6315 6320

Lys His Ala Phe His Thr Pro Ala Phe Asp Lys Ser Ala Phe Thr Asn
6325 6330 6335

Leu Lys Gln Leu Pro Phe Phe Tyr Tyr Ser Asp Ser Pro Cys Glu Ser
6340 6345 6350

His Gly Lys Gln Val Val Ser Asp Ile Asp Tyr Val Pro Leu Lys Ser
6355 6360 6365

Ala Thr Cys Ile Thr Arg Cys Asn Leu Gly Gly Ala Val Cys Arg His
6370 6375 6380

His Ala Asn Glu Tyr Arg Gln Tyr Leu Asp Ala Tyr Asn Met Met Ile
6385 6390 6395 6400

Ser Ala Gly Phe Ser Leu Trp Ile Tyr Lys Gln Phe Asp Thr Tyr Asn
6405 6410 6415

Leu Trp Asn Thr Phe Thr Arg Leu Gln Ser Leu Glu Asn Val Ala Tyr
6420 6425 6430

Asn Val Val Asn Lys Gly His Phe Asp Gly His Ala Gly Glu Ala Pro
6435 6440 6445

Val Ser Ile Ile Asn Asn Ala Val Tyr Thr Lys Val Asp Gly Ile Asp
6450 6455 6460

Val Glu Ile Phe Glu Asn Lys Thr Thr Leu Pro Val Asn Val Ala Phe
6465 6470 6475 6480

Glu Leu Trp Ala Lys Arg Asn Ile Lys Pro Val Pro Glu Ile Lys Ile
6485 6490 6495

Leu Asn Asn Leu Gly Val Asp Ile Ala Ala Asn Thr Val Ile Trp Asp
6500 6505 6510

Tyr Lys Arg Glu Ala Pro Ala His Val Ser Thr Ile Gly Val Cys Thr
6515 6520 6525

Met Thr Asp Ile Ala Lys Lys Pro Thr Glu Ser Ala Cys Ser Ser Leu
6530 6535 6540

Thr Val Leu Phe Asp Gly Arg Val Glu Gly Gln Val Asp Leu Phe Arg
6545 6550 6555 6560

SEQLIST-20480.TXT

Asn Ala Arg Asn Gly Val Leu Ile Thr Glu Gly Ser Val Lys Gly Leu
 6565 6570 6575
 Thr Pro Ser Lys Gly Pro Ala Gln Ala Ser Val Asn Gly Val Thr Leu
 6580 6585 6590
 Ile Gly Glu Ser Val Lys Thr Gln Phe Asn Tyr Phe Lys Lys Val Asp
 6595 6600 6605
 Gly Ile Ile Gln Gln Leu Pro Glu Thr Tyr Phe Thr Gln Ser Arg Asp
 6610 6615 6620
 Leu Glu Asp Phe Lys Pro Arg Ser Gln Met Glu Thr Asp Phe Leu Glu
 6625 6630 6635 6640
 Leu Ala Met Asp Glu Phe Ile Gln Arg Tyr Lys Leu Glu Gly Tyr Ala
 6645 6650 6655
 Phe Glu His Ile Val Tyr Gly Asp Phe Ser His Gly Gln Leu Gly Gly
 6660 6665 6670
 Leu His Leu Met Ile Gly Leu Ala Lys Arg Ser Gln Asp Ser Pro Leu
 6675 6680 6685
 Lys Leu Glu Asp Phe Ile Pro Met Asp Ser Thr Val Lys Asn Tyr Phe
 6690 6695 6700
 Ile Thr Asp Ala Gln Thr Gly Ser Ser Lys Cys Val Cys Ser Val Ile
 6705 6710 6715 6720
 Asp Leu Leu Leu Asp Asp Phe Val Glu Ile Ile Lys Ser Gln Asp Leu
 6725 6730 6735
 Ser Val Ile Ser Lys Val Val Lys Val Thr Ile Asp Tyr Ala Glu Ile
 6740 6745 6750
 Ser Phe Met Leu Trp Cys Lys Asp Gly His Val Glu Thr Phe Tyr Pro
 6755 6760 6765
 Lys Leu Gln Ala Ser Arg Ala Trp Gln Pro Gly Val Ala Met Pro Asn
 6770 6775 6780
 Leu Tyr Lys Met Gln Arg Met Leu Leu Glu Lys Cys Asp Leu Gln Asn
 6785 6790 6795 6800
 Tyr Gly Glu Asn Ala Val Ile Pro Lys Gly Ile Met Met Asn Val Ala
 6805 6810 6815
 Lys Tyr Thr Gln Leu Cys Gln Tyr Leu Asn Thr Leu Thr Leu Ala Val
 6820 6825 6830
 Pro Tyr Asn Met Arg Val Ile His Phe Gly Ala Gly Ser Asp Lys Gly
 6835 6840 6845
 Val Ala Pro Gly Thr Ala Val Leu Arg Gln Trp Leu Pro Thr Gly Thr
 6850 6855 6860
 Leu Leu Val Asp Ser Asp Leu Asn Asp Phe Val Ser Asp Ala Tyr Ser
 6865 6870 6875 6880
 Thr Leu Ile Gly Asp Cys Ala Thr Val His Thr Ala Asn Lys Trp Asp
 6885 6890 6895

SEQLIST-20480.TXT

Leu Ile Ile Ser Asp Met Tyr Asp Pro Arg Thr Lys His Val Thr Lys
6900 6905 6910

Glu Asn Asp Ser Lys Glu Gly Phe Phe Thr Tyr Leu Cys Gly Phe Ile
6915 6920 6925

Lys Gln Lys Leu Ala Leu Gly Gly Ser Ile Ala Val Lys Ile Thr Glu
6930 6935 6940

His Ser Trp Asn Ala Asp Leu Tyr Lys Leu Met Gly His Phe Ser Trp
6945 6950 6955 6960

Trp Thr Ala Phe Val Thr Asn Val Asn Ala Ser Ser Ser Glu Ala Phe
6965 6970 6975

Leu Ile Gly Ala Asn Tyr Leu Gly Lys Pro Lys Glu Gln Ile Asp Gly
6980 6985 6990

Tyr Thr Met His Ala Asn Tyr Ile Phe Trp Arg Asn Thr Asn Pro Ile
6995 7000 7005

Gln Leu Ser Ser Tyr Ser Leu Phe Asp Met Ser Lys Phe Pro Leu Lys
7010 7015 7020

Leu Arg Gly Thr Ala Val Met Ser Leu Lys Glu Asn Gln Ile Asn Asp
7025 7030 7035 7040

Met Ile Tyr Ser Leu Leu Glu Lys Gly Arg Leu Ile Ile Arg Glu Asn
7045 7050 7055

Asn Arg Val Val Val Ser Ser Asp Ile Leu Val Asn Asn
7060 7065

<210> 7250
<211> 7070
<212> PRT
<213> SARS coronavirus

<400> 7250
Met Glu Ser Leu Val Leu Gly Val Asn Glu Lys Thr His Val Gln Leu
1 5 10 15

Ser Leu Pro Val Leu Gln Val Arg Asp Val Leu Val Arg Gly Phe Gly
20 25 30

Asp Ser Val Glu Glu Ala Leu Ser Glu Ala Arg Glu His Leu Lys Asn
35 40 45

Gly Thr Cys Gly Leu Val Glu Leu Glu Lys Gly Val Leu Pro Gln Leu
50 55 60

Glu Gln Pro Tyr Val Phe Ile Lys Arg Ser Asp Ala Leu Ser Thr Asn
65 70 75 80

His Gly His Lys Val Val Glu Leu Val Ala Glu Met Asp Gly Ile Gln
85 90 95

Tyr Gly Arg Ser Gly Ile Thr Leu Gly Val Leu Val Pro His Val Gly
100 105 110

Glu Thr Pro Ile Ala Tyr Arg Asn Val Leu Leu Arg Lys Asn Gly Asn
115 120 125

SEQLIST-20480.TXT

Lys Gly Ala Gly Gly His Ser Tyr Gly Ile Asp Leu Lys Ser Tyr Asp
 130 135 140
 Leu Gly Asp Glu Leu Gly Thr Asp Pro Ile Glu Asp Tyr Glu Gln Asn
 145 150 155 160
 Trp Asn Thr Lys His Gly Ser Gly Ala Leu Arg Glu Leu Thr Arg Glu
 165 170 175
 Leu Asn Gly Gly Ala Val Thr Arg Tyr Val Asp Asn Asn Phe Cys Gly
 180 185 190
 Pro Asp Gly Tyr Pro Leu Asp Cys Ile Lys Asp Phe Leu Ala Arg Ala
 195 200 205
 Gly Lys Ser Met Cys Thr Leu Ser Glu Gln Leu Asp Tyr Ile Glu Ser
 210 215 220
 Lys Arg Gly Val Tyr Cys Cys Arg Asp His Glu His Glu Ile Ala Trp
 225 230 235 240
 Phe Thr Glu Arg Ser Asp Lys Ser Tyr Glu His Gln Thr Pro Phe Glu
 245 250 255
 Ile Lys Ser Ala Lys Lys Phe Asp Thr Phe Lys Gly Glu Cys Pro Lys
 260 265 270
 Phe Val Phe Pro Leu Asn Ser Lys Val Lys Val Ile Gln Pro Arg Val
 275 280 285
 Glu Lys Lys Lys Thr Glu Gly Phe Met Gly Arg Ile Arg Ser Val Tyr
 290 295 300
 Pro Val Ala Ser Pro Gln Glu Cys Asn Asn Met His Leu Ser Thr Leu
 305 310 315 320
 Met Lys Cys Asn His Cys Asp Glu Val Ser Trp Gln Thr Cys Asp Phe
 325 330 335
 Leu Lys Ala Thr Cys Glu His Cys Gly Thr Glu Asn Leu Val Ile Glu
 340 345 350
 Gly Pro Thr Thr Cys Gly Tyr Leu Pro Thr Asn Ala Val Val Lys Met
 355 360 365
 Pro Cys Pro Ala Cys Gln Asp Pro Glu Ile Gly Pro Glu His Ser Val
 370 375 380
 Ala Asp Tyr His Asn His Ser Asn Ile Glu Thr Arg Leu Arg Lys Gly
 385 390 395 400
 Gly Arg Thr Arg Cys Phe Gly Gly Cys Val Phe Ala Tyr Val Gly Cys
 405 410 415
 Tyr Asn Lys Arg Ala Tyr Trp Val Pro Arg Ala Ser Ala Asp Ile Gly
 420 425 430
 Ser Gly His Thr Gly Ile Thr Gly Asp Asn Val Glu Thr Leu Asn Glu
 435 440 445
 Asp Leu Leu Glu Ile Leu Ser Arg Glu Arg Val Asn Ile Asn Ile Val
 450 455 460

SEQLIST-20480.TXT

Gly Asp Phe His Leu Asn Glu Glu Val Ala Ile Ile Leu Ala Ser Phe
465 470 475 480
Ser Ala Ser Thr Ser Ala Phe Ile Asp Thr Ile Lys Ser Leu Asp Tyr
485 490 495
Lys Ser Phe Lys Thr Ile Val Glu Ser Cys Gly Asn Tyr Lys Val Thr
500 505 510
Lys Gly Lys Pro Val Lys Gly Ala Trp Asn Ile Gly Gln Gln Arg Ser
515 520 525
Val Leu Thr Pro Leu Cys Gly Phe Pro Ser Gln Ala Ala Gly Val Ile
530 535 540
Arg Ser Ile Phe Ala Arg Thr Leu Asp Ala Ala Asn His Ser Ile Pro
545 550 555 560
Asp Leu Gln Arg Ala Ala Val Thr Ile Leu Asp Gly Ile Ser Glu Gln
565 570 575
Ser Leu Arg Leu Val Asp Ala Met Val Tyr Thr Ser Asp Leu Leu Thr
580 585 590
Asn Ser Val Ile Ile Met Ala Tyr Val Thr Gly Gly Leu Val Gln Gln
595 600 605
Thr Ser Gln Trp Leu Ser Asn Leu Leu Gly Thr Thr Val Glu Lys Leu
610 615 620
Arg Pro Ile Phe Glu Trp Ile Glu Ala Lys Leu Ser Ala Gly Val Glu
625 630 635 640
Phe Leu Lys Asp Ala Trp Glu Ile Leu Lys Phe Leu Ile Thr Gly Val
645 650 655
Phe Asp Ile Val Lys Gly Gln Ile Gln Val Ala Ser Asp Asn Ile Lys
660 665 670
Asp Cys Val Lys Cys Phe Ile Asp Val Val Asn Lys Ala Leu Glu Met
675 680 685
Cys Ile Asp Gln Val Thr Ile Ala Gly Ala Lys Leu Arg Ser Leu Asn
690 695 700
Leu Gly Glu Val Phe Ile Ala Gln Ser Lys Gly Leu Tyr Arg Gln Cys
705 710 715 720
Ile Arg Gly Lys Glu Gln Leu Gln Leu Leu Met Pro Leu Lys Ala Pro
725 730 735
Lys Glu Val Thr Phe Leu Glu Gly Asp Ser His Asp Thr Val Leu Thr
740 745 750
Ser Glu Glu Val Val Leu Lys Asn Gly Glu Leu Glu Ala Leu Glu Thr
755 760 765
Pro Val Asp Ser Phe Thr Asn Gly Ala Ile Val Gly Thr Pro Val Cys
770 775 780
Val Asn Gly Leu Met Leu Leu Glu Ile Lys Asp Lys Glu Gln Tyr Cys
785 790 795 800

SEQLIST-20480.TXT

Ala Leu Ser Pro Gly Leu Leu Ala Thr Asn Asn Val Phe Arg Leu Lys
805 810 815

Gly Gly Ala Pro Ile Lys Gly Val Thr Phe Gly Glu Asp Thr Val Trp
820 825 830

Glu Val Gln Gly Tyr Lys Asn Val Arg Ile Thr Phe Glu Leu Asp Glu
835 840 845

Arg Val Asp Lys Val Leu Asn Glu Lys Cys Ser Val Tyr Thr Val Glu
850 855 860

Ser Gly Thr Glu Val Thr Glu Phe Ala Cys Val Val Ala Glu Ala Val
865 870 875 880

Val Lys Thr Leu Gln Pro Val Ser Asp Leu Leu Thr Asn Met Gly Ile
885 890 895

Asp Leu Asp Glu Trp Ser Val Ala Thr Phe Tyr Leu Phe Asp Asp Ala
900 905 910

Gly Glu Glu Asn Phe Ser Ser Arg Met Tyr Cys Ser Phe Tyr Pro Pro
915 920 925

Asp Glu Glu Glu Glu Asp Asp Ala Glu Cys Glu Glu Glu Glu Ile Asp
930 935 940

Glu Thr Cys Glu His Glu Tyr Gly Thr Glu Asp Asp Tyr Gln Gly Leu
945 950 955 960

Pro Leu Glu Phe Gly Ala Ser Ala Glu Thr Val Arg Val Glu Glu Glu
965 970 975

Glu Glu Glu Asp Trp Leu Asp Asp Thr Thr Glu Gln Ser Glu Ile Glu
980 985 990

Pro Glu Pro Glu Pro Thr Pro Glu Glu Pro Val Asn Gln Phe Thr Gly
995 1000 1005

Tyr Leu Lys Leu Thr Asp Asn Val Ala Ile Lys Cys Val Asp Ile Val
1010 1015 1020

Lys Glu Ala Gln Ser Ala Asn Pro Met Val Ile Val Asn Ala Ala Asn
1025 1030 1035 1040

Ile His Leu Lys His Gly Gly Gly Val Ala Gly Ala Leu Asn Lys Ala
1045 1050 1055

Thr Asn Gly Ala Met Gln Lys Glu Ser Asp Asp Tyr Ile Lys Leu Asn
1060 1065 1070

Gly Pro Leu Thr Val Gly Gly Ser Cys Leu Leu Ser Gly His Asn Leu
1075 1080 1085

Ala Lys Lys Cys Leu His Val Val Gly Pro Asn Leu Asn Ala Gly Glu
1090 1095 1100

Asp Ile Gln Leu Leu Lys Ala Ala Tyr Glu Asn Phe Asn Ser Gln Asp
1105 1110 1115 1120

Ile Leu Leu Ala Pro Leu Leu Ser Ala Gly Ile Phe Gly Ala Lys Pro
1125 1130 1135

SEQLIST-20480.TXT

Leu Gln Ser Leu Gln Val Cys Val Gln Thr Val Arg Thr Gln Val Tyr
 1140 1145 1150
 Ile Ala Val Asn Asp Lys Ala Leu Tyr Glu Gln Val Val Met Asp Tyr
 1155 1160 1165
 Leu Asp Asn Leu Lys Pro Arg Val Glu Ala Pro Lys Gln Glu Glu Pro
 1170 1175 1180
 Pro Asn Thr Glu Asp Ser Lys Thr Glu Glu Lys Ser Val Val Gln Lys
 1185 1190 1195 1200
 Pro Val Asp Val Lys Pro Lys Ile Lys Ala Cys Ile Asp Glu Val Thr
 1205 1210 1215
 Thr Thr Leu Glu Glu Thr Lys Phe Leu Thr Asn Lys Leu Leu Leu Phe
 1220 1225 1230
 Ala Asp Ile Asn Gly Lys Leu Tyr His Asp Ser Gln Asn Met Leu Arg
 1235 1240 1245
 Gly Glu Asp Met Ser Phe Leu Glu Lys Asp Ala Pro Tyr Met Val Gly
 1250 1255 1260
 Asp Val Ile Thr Ser Gly Asp Ile Thr Cys Val Val Ile Pro Ser Lys
 1265 1270 1275 1280
 Lys Ala Gly Gly Thr Thr Glu Met Leu Ser Arg Ala Leu Lys Lys Val
 1285 1290 1295
 Pro Val Asp Glu Tyr Ile Thr Thr Tyr Pro Gly Gln Gly Cys Ala Gly
 1300 1305 1310
 Tyr Thr Leu Glu Glu Ala Lys Thr Ala Leu Lys Lys Cys Lys Ser Ala
 1315 1320 1325
 Phe Tyr Val Leu Pro Ser Glu Ala Pro Asn Ala Lys Glu Glu Ile Leu
 1330 1335 1340
 Gly Thr Val Ser Trp Asn Leu Arg Glu Met Leu Ala His Ala Glu Glu
 1345 1350 1355 1360
 Thr Arg Lys Leu Met Pro Ile Cys Met Asp Val Arg Ala Ile Met Ala
 1365 1370 1375
 Thr Ile Gln Arg Lys Tyr Lys Gly Ile Lys Ile Gln Glu Gly Ile Val
 1380 1385 1390
 Asp Tyr Gly Val Arg Phe Phe Phe Tyr Thr Ser Lys Glu Pro Val Ala
 1395 1400 1405
 Ser Ile Ile Thr Lys Leu Asn Ser Leu Asn Glu Pro Leu Val Thr Met
 1410 1415 1420
 Pro Ile Gly Tyr Val Thr His Gly Phe Asn Leu Glu Glu Ala Ala Arg
 1425 1430 1435 1440
 Cys Met Arg Ser Leu Lys Ala Pro Ala Val Val Ser Val Ser Ser Pro
 1445 1450 1455
 Asp Ala Val Thr Thr Tyr Asn Gly Tyr Leu Thr Ser Ser Ser Lys Thr
 1460 1465 1470

SEQLIST-20480.TXT

Ser Glu Glu His Phe Val Glu Thr Val Ser Leu Ala Gly Ser Tyr Arg
1475 1480 1485

Asp Trp Ser Tyr Ser Gly Gln Arg Thr Glu Leu Gly Val Glu Phe Leu
1490 1495 1500

Lys Arg Gly Asp Lys Ile Val Tyr His Thr Leu Glu Ser Pro Val Glu
1505 1510 1515 1520

Phe His Leu Asp Gly Glu Val Leu Ser Leu Asp Lys Leu Lys Ser Leu
1525 1530 1535

Leu Ser Leu Arg Glu Val Lys Thr Ile Lys Val Phe Thr Thr Val Asp
1540 1545 1550

Asn Thr Asn Leu His Thr Gln Leu Val Asp Met Ser Met Thr Tyr Gly
1555 1560 1565

Gln Gln Phe Gly Pro Thr Tyr Leu Asp Gly Ala Asp Val Thr Lys Ile
1570 1575 1580

Lys Pro His Val Asn His Glu Gly Lys Thr Phe Phe Val Leu Pro Ser
1585 1590 1595 1600

Asp Asp Thr Leu Arg Ser Glu Ala Phe Glu Tyr Tyr His Thr Leu Asp
1605 1610 1615

Glu Ser Phe Leu Gly Arg Tyr Met Ser Ala Leu Asn His Thr Lys Lys
1620 1625 1630

Trp Lys Phe Pro Gln Val Gly Gly Leu Thr Ser Ile Lys Trp Ala Asp
1635 1640 1645

Asn Asn Cys Tyr Leu Ser Ser Val Leu Leu Ala Leu Gln Gln Leu Glu
1650 1655 1660

Val Lys Phe Asn Ala Pro Ala Leu Gln Glu Ala Tyr Tyr Arg Ala Arg
1665 1670 1675 1680

Ala Gly Asp Ala Ala Asn Phe Cys Ala Leu Ile Leu Ala Tyr Ser Asn
1685 1690 1695

Lys Thr Val Gly Glu Leu Gly Asp Val Arg Glu Thr Met Thr His Leu
1700 1705 1710

Leu Gln His Ala Asn Leu Glu Ser Ala Lys Arg Val Leu Asn Val Val
1715 1720 1725

Cys Lys His Cys Gly Gln Lys Thr Thr Thr Leu Thr Gly Val Glu Ala
1730 1735 1740

Val Met Tyr Met Gly Thr Leu Ser Tyr Asp Asn Leu Lys Thr Gly Val
1745 1750 1755 1760

Ser Ile Pro Cys Val Cys Gly Arg Asp Ala Thr Gln Tyr Leu Val Gln
1765 1770 1775

Gln Glu Ser Ser Phe Val Met Met Ser Ala Pro Pro Ala Glu Tyr Lys
1780 1785 1790

Leu Gln Gln Gly Thr Phe Leu Cys Ala Asn Glu Tyr Thr Gly Asn Tyr
1795 1800 1805

SEQLIST-20480.TXT

Gln Cys Gly His Tyr Thr His Ile Thr Ala Lys Glu Thr Leu Tyr Arg
1810 1815 1820

Ile Asp Gly Ala His Leu Thr Lys Met Ser Glu Tyr Lys Gly Pro Val
1825 1830 1835 1840

Thr Asp Val Phe Tyr Lys Glu Thr Ser Tyr Thr Thr Thr Ile Lys Pro
1845 1850 1855

Val Ser Tyr Lys Leu Asp Gly Val Thr Tyr Thr Glu Ile Glu Pro Lys
1860 1865 1870

Leu Asp Gly Tyr Tyr Lys Lys Asp Asn Ala Tyr Tyr Thr Glu Gln Pro
1875 1880 1885

Ile Asp Leu Val Pro Thr Gln Pro Leu Pro Asn Ala Ser Phe Asp Asn
1890 1895 1900

Phe Lys Leu Thr Cys Ser Asn Thr Lys Phe Ala Asp Asp Leu Asn Gln
1905 1910 1915 1920

Met Thr Gly Phe Thr Lys Pro Ala Ser Arg Glu Leu Ser Val Thr Phe
1925 1930 1935

Phe Pro Asp Leu Asn Gly Asp Val Val Ala Ile Asp Tyr Arg His Tyr
1940 1945 1950

Ser Ala Ser Phe Lys Lys Gly Ala Lys Leu Leu His Lys Pro Ile Val
1955 1960 1965

Trp His Ile Asn Gln Ala Thr Thr Lys Thr Thr Phe Lys Pro Asn Thr
1970 1975 1980

Trp Cys Leu Arg Cys Leu Trp Ser Thr Lys Pro Val Asp Thr Ser Asn
1985 1990 1995 2000

Ser Phe Glu Val Leu Ala Val Glu Asp Thr Gln Gly Met Asp Asn Leu
2005 2010 2015

Ala Cys Glu Ser Gln Gln Pro Thr Ser Glu Glu Val Val Glu Asn Pro
2020 2025 2030

Thr Ile Gln Lys Glu Val Ile Glu Cys Asp Val Lys Thr Thr Glu Val
2035 2040 2045

Val Gly Asn Val Ile Leu Lys Pro Ser Asp Glu Gly Val Lys Val Thr
2050 2055 2060

Gln Glu Leu Gly His Glu Asp Leu Met Ala Ala Tyr Val Glu Asn Thr
2065 2070 2075 2080

Ser Ile Thr Ile Lys Lys Pro Asn Glu Leu Ser Leu Ala Leu Gly Leu
2085 2090 2095

Lys Thr Ile Ala Thr His Gly Ile Ala Ala Ile Asn Ser Val Pro Trp
2100 2105 2110

Ser Lys Ile Leu Ala Tyr Val Lys Pro Phe Leu Gly Gln Ala Ala Ile
2115 2120 2125

Thr Thr Ser Asn Cys Ala Lys Arg Leu Ala Gln Arg Val Phe Asn Asn
2130 2135 2140

SEQLIST-20480.TXT

Tyr Met Pro Tyr Val Phe Thr Leu Leu Phe Gln Leu Cys Thr Phe Thr
 2145 2150 2155 2160
 Lys Ser Thr Asn Ser Arg Ile Arg Ala Ser Leu Pro Thr Thr Ile Ala
 2165 2170 2175
 Lys Asn Ser Val Lys Ser Val Ala Lys Leu Cys Leu Asp Ala Gly Ile
 2180 2185 2190
 Asn Tyr Val Lys Ser Pro Lys Phe Ser Lys Leu Phe Thr Ile Ala Met
 2195 2200 2205
 Trp Leu Leu Leu Leu Ser Ile Cys Leu Gly Ser Leu Ile Cys Val Thr
 2210 2215 2220
 Ala Ala Phe Gly Val Leu Leu Ser Asn Phe Gly Ala Pro Ser Tyr Cys
 2225 2230 2235 2240
 Asn Gly Val Arg Glu Leu Tyr Leu Asn Ser Ser Asn Val Thr Thr Met
 2245 2250 2255
 Asp Phe Cys Glu Gly Ser Phe Pro Cys Ser Ile Cys Leu Ser Gly Leu
 2260 2265 2270
 Asp Ser Leu Asp Ser Tyr Pro Ala Leu Glu Thr Ile Gln Val Thr Ile
 2275 2280 2285
 Ser Ser Tyr Lys Leu Asp Leu Thr Ile Leu Gly Leu Ala Ala Glu Trp
 2290 2295 2300
 Val Leu Ala Tyr Met Leu Phe Thr Lys Phe Phe Tyr Leu Leu Gly Leu
 2305 2310 2315 2320
 Ser Ala Ile Met Gln Val Phe Phe Gly Tyr Phe Ala Ser His Phe Ile
 2325 2330 2335
 Ser Asn Ser Trp Leu Met Trp Phe Ile Ile Ser Ile Val Gln Met Ala
 2340 2345 2350
 Pro Val Ser Ala Met Val Arg Met Tyr Ile Phe Phe Ala Ser Phe Tyr
 2355 2360 2365
 Tyr Ile Trp Lys Ser Tyr Val His Ile Met Asp Gly Cys Thr Ser Ser
 2370 2375 2380
 Thr Cys Met Met Cys Tyr Lys Arg Asn Arg Ala Thr Arg Val Glu Cys
 2385 2390 2395 2400
 Thr Thr Ile Val Asn Gly Met Lys Arg Ser Phe Tyr Val Tyr Ala Asn
 2405 2410 2415
 Gly Gly Arg Gly Phe Cys Lys Thr His Asn Trp Asn Cys Leu Asn Cys
 2420 2425 2430
 Asp Thr Phe Cys Thr Gly Ser Thr Phe Ile Ser Asp Glu Val Ala Arg
 2435 2440 2445
 Asp Leu Ser Leu Gln Phe Lys Arg Pro Ile Asn Pro Thr Asp Gln Ser
 2450 2455 2460
 Ser Tyr Ile Val Asp Ser Val Ala Val Lys Asn Gly Ala Leu His Leu
 2465 2470 2475 2480

SEQLIST-20480.TXT

Tyr Phe Asp Lys Ala Gly Gln Lys Thr Tyr Glu Arg His Pro Leu Ser
 2485 2490 2495
 His Phe Val Asn Leu Asp Asn Leu Arg Ala Asn Asn Thr Lys Gly Ser
 2500 2505 2510
 Leu Pro Ile Asn Val Ile Val Phe Asp Gly Lys Ser Lys Cys Asp Glu
 2515 2520 2525
 Ser Ala Ser Lys Ser Ala Ser Val Tyr Tyr Ser Gln Leu Met Cys Gln
 2530 2535 2540
 Pro Ile Leu Leu Leu Asp Gln Ala Leu Val Ser Asp Val Gly Asp Ser
 2545 2550 2555 2560
 Thr Glu Val Ser Val Lys Met Phe Asp Ala Tyr Val Asp Thr Phe Ser
 2565 2570 2575
 Ala Thr Phe Ser Val Pro Met Glu Lys Leu Lys Ala Leu Val Ala Thr
 2580 2585 2590
 Ala His Ser Glu Leu Ala Lys Gly Val Ala Leu Asp Gly Val Leu Ser
 2595 2600 2605
 Thr Phe Val Ser Ala Ala Arg Gln Gly Val Val Asp Thr Asp Val Asp
 2610 2615 2620
 Thr Lys Asp Val Ile Glu Cys Leu Lys Leu Ser His His Ser Asp Leu
 2625 2630 2635 2640
 Glu Val Thr Gly Asp Ser Cys Asn Asn Phe Met Leu Thr Tyr Asn Lys
 2645 2650 2655
 Val Glu Asn Met Thr Pro Arg Asp Leu Gly Ala Cys Ile Asp Cys Asn
 2660 2665 2670
 Ala Arg His Ile Asn Ala Gln Val Ala Lys Ser His Asn Val Ser Leu
 2675 2680 2685
 Ile Trp Asn Val Lys Asp Tyr Met Ser Leu Ser Glu Gln Leu Arg Lys
 2690 2695 2700
 Gln Ile Arg Ser Ala Ala Lys Lys Asn Asn Ile Pro Phe Arg Leu Thr
 2705 2710 2715 2720
 Cys Ala Thr Thr Arg Gln Val Val Asn Val Ile Thr Thr Lys Ile Ser
 2725 2730 2735
 Leu Lys Gly Gly Lys Ile Val Ser Thr Cys Phe Lys Leu Met Leu Lys
 2740 2745 2750
 Ala Thr Leu Leu Cys Val Leu Ala Ala Leu Val Cys Tyr Ile Val Met
 2755 2760 2765
 Pro Val His Thr Leu Ser Ile His Asp Gly Tyr Thr Asn Glu Ile Ile
 2770 2775 2780
 Gly Tyr Lys Ala Ile Gln Asp Gly Val Thr Arg Asp Ile Ile Ser Thr
 2785 2790 2795 2800
 Asp Asp Cys Phe Ala Asn Lys His Ala Gly Phe Asp Ala Trp Phe Ser
 2805 2810 2815

SEQLIST-20480.TXT

Gln Arg Gly Gly Ser Tyr Lys Asn Asp Lys Ser Cys Pro Val Val Ala
2820 2825 2830

Ala Ile Ile Thr Arg Glu Ile Gly Phe Ile Val Pro Gly Leu Pro Gly
2835 2840 2845

Thr Val Leu Arg Ala Ile Asn Gly Asp Phe Leu His Phe Leu Pro Arg
2850 2855 2860

Val Phe Ser Ala Val Gly Asn Ile Cys Tyr Thr Pro Ser Lys Leu Ile
2865 2870 2875 2880

Glu Tyr Ser Asp Phe Ala Thr Ser Ala Cys Val Leu Ala Ala Glu Cys
2885 2890 2895

Thr Ile Phe Lys Asp Ala Met Gly Lys Pro Val Pro Tyr Cys Tyr Asp
2900 2905 2910

Thr Asn Leu Leu Glu Gly Ser Ile Ser Tyr Ser Glu Leu Arg Pro Asp
2915 2920 2925

Thr Arg Tyr Val Leu Met Asp Gly Ser Ile Ile Gln Phe Pro Asn Thr
2930 2935 2940

Tyr Leu Glu Gly Ser Val Arg Val Val Thr Thr Phe Asp Ala Glu Tyr
2945 2950 2955 2960

Cys Arg His Gly Thr Cys Glu Arg Ser Glu Val Gly Ile Cys Leu Ser
2965 2970 2975

Thr Ser Gly Arg Trp Val Leu Asn Asn Glu His Tyr Arg Ala Leu Ser
2980 2985 2990

Gly Val Phe Cys Gly Val Asp Ala Met Asn Leu Ile Ala Asn Ile Phe
2995 3000 3005

Thr Pro Leu Val Gln Pro Val Gly Ala Leu Asp Val Ser Ala Ser Val
3010 3015 3020

Val Ala Gly Gly Ile Ile Ala Ile Leu Val Thr Cys Ala Ala Tyr Tyr
3025 3030 3035 3040

Phe Met Lys Phe Arg Arg Val Phe Gly Glu Tyr Asn His Val Val Ala
3045 3050 3055

Ala Asn Ala Leu Leu Phe Leu Met Ser Phe Thr Ile Leu Cys Leu Val
3060 3065 3070

Pro Ala Tyr Ser Phe Leu Pro Gly Val Tyr Ser Val Phe Tyr Leu Tyr
3075 3080 3085

Leu Thr Phe Tyr Phe Thr Asn Asp Val Ser Phe Leu Ala His Leu Gln
3090 3095 3100

Trp Phe Ala Met Phe Ser Pro Ile Val Pro Phe Trp Ile Thr Ala Ile
3105 3110 3115 3120

Tyr Val Phe Cys Ile Ser Leu Lys His Cys His Trp Phe Phe Asn Asn
3125 3130 3135

Tyr Leu Arg Lys Arg Val Met Phe Asn Gly Val Thr Phe Ser Thr Phe
3140 3145 3150

SEQLIST-20480.TXT

Glu Glu Ala Ala Leu Cys Thr Phe Leu Leu Asn Lys Glu Met Tyr Leu
 3155 3160 3165
 Lys Leu Arg Ser Glu Thr Leu Leu Pro Leu Thr Gln Tyr Asn Arg Tyr
 3170 3175 3180
 Leu Ala Leu Tyr Asn Lys Tyr Lys Tyr Phe Ser Gly Ala Leu Asp Thr
 3185 3190 3195 3200
 Thr Ser Tyr Arg Glu Ala Ala Cys Cys His Leu Ala Lys Ala Leu Asn
 3205 3210 3215
 Asp Phe Ser Asn Ser Gly Ala Asp Val Leu Tyr Gln Pro Pro Gln Thr
 3220 3225 3230
 Ser Ile Thr Ser Ala Val Leu Gln Ser Gly Phe Arg Lys Met Ala Phe
 3235 3240 3245
 Pro Ser Gly Lys Val Glu Gly Cys Met Val Gln Val Thr Cys Gly Thr
 3250 3255 3260
 Thr Thr Leu Asn Gly Leu Trp Leu Asp Asp Thr Val Tyr Cys Pro Arg
 3265 3270 3275 3280
 His Val Ile Cys Thr Ala Glu Asp Met Leu Asn Pro Asn Tyr Glu Asp
 3285 3290 3295
 Leu Leu Ile Arg Lys Ser Asn His Ser Phe Leu Val Gln Ala Gly Asn
 3300 3305 3310
 Val Gln Leu Arg Val Ile Gly His Ser Met Gln Asn Cys Leu Leu Arg
 3315 3320 3325
 Leu Lys Val Asp Thr Ser Asn Pro Lys Thr Pro Lys Tyr Lys Phe Val
 3330 3335 3340
 Arg Ile Gln Pro Gly Gln Thr Phe Ser Val Leu Ala Cys Tyr Asn Gly
 3345 3350 3355 3360
 Ser Pro Ser Gly Val Tyr Gln Cys Ala Met Arg Pro Asn His Thr Ile
 3365 3370 3375
 Lys Gly Ser Phe Leu Asn Gly Ser Cys Gly Ser Val Gly Phe Asn Ile
 3380 3385 3390
 Asp Tyr Asp Cys Val Ser Phe Cys Tyr Met His His Met Glu Leu Pro
 3395 3400 3405
 Thr Gly Val His Ala Gly Thr Asp Leu Glu Gly Lys Phe Tyr Gly Pro
 3410 3415 3420
 Phe Val Asp Arg Gln Thr Ala Gln Ala Ala Gly Thr Asp Thr Thr Ile
 3425 3430 3435 3440
 Thr Leu Asn Val Leu Ala Trp Leu Tyr Ala Ala Val Ile Asn Gly Asp
 3445 3450 3455
 Arg Trp Phe Leu Asn Arg Phe Thr Thr Thr Leu Asn Asp Phe Asn Leu
 3460 3465 3470
 Val Ala Met Lys Tyr Asn Tyr Glu Pro Leu Thr Gln Asp His Val Asp
 3475 3480 3485

SEQLIST-20480.TXT

Ile Leu Gly Pro Leu Ser Ala Gln Thr Gly Ile Ala Val Leu Asp Met
3490 3495 3500

Cys Ala Ala Leu Lys Glu Leu Leu Gln Asn Gly Met Asn Gly Arg Thr
3505 3510 3515 3520

Ile Leu Gly Ser Thr Ile Leu Glu Asp Glu Phe Thr Pro Phe Asp Val
3525 3530 3535

Val Arg Gln Cys Ser Gly Val Thr Phe Gln Gly Lys Phe Lys Lys Ile
3540 3545 3550

Val Lys Gly Thr His His Trp Met Leu Leu Thr Phe Leu Thr Ser Leu
3555 3560 3565

Leu Ile Leu Val Gln Ser Thr Gln Trp Ser Leu Phe Phe Phe Val Tyr
3570 3575 3580

Glu Asn Ala Phe Leu Pro Phe Thr Leu Gly Ile Met Ala Ile Ala Ala
3585 3590 3595 3600

Cys Ala Met Leu Leu Val Lys His Lys His Ala Phe Leu Cys Leu Phe
3605 3610 3615

Leu Leu Pro Ser Leu Ala Thr Val Ala Tyr Phe Asn Met Val Tyr Met
3620 3625 3630

Pro Ala Ser Trp Val Met Arg Ile Met Thr Trp Leu Glu Leu Ala Asp
3635 3640 3645

Thr Ser Leu Ser Gly Tyr Arg Leu Lys Asp Cys Val Met Tyr Ala Ser
3650 3655 3660

Ala Leu Val Leu Leu Ile Leu Met Thr Ala Arg Thr Val Tyr Asp Asp
3665 3670 3675 3680

Ala Ala Arg Arg Val Trp Thr Leu Met Asn Val Ile Thr Leu Val Tyr
3685 3690 3695

Lys Val Tyr Tyr Gly Asn Ala Leu Asp Gln Ala Ile Ser Met Trp Ala
3700 3705 3710

Leu Val Ile Ser Val Thr Ser Asn Tyr Ser Gly Val Val Thr Thr Ile
3715 3720 3725

Met Phe Leu Ala Arg Ala Ile Val Phe Val Cys Val Glu Tyr Tyr Pro
3730 3735 3740

Leu Leu Phe Ile Thr Gly Asn Thr Leu Gln Cys Ile Met Leu Val Tyr
3745 3750 3755 3760

Cys Phe Leu Gly Tyr Cys Cys Cys Cys Tyr Phe Gly Leu Phe Cys Leu
3765 3770 3775

Leu Asn Arg Tyr Phe Arg Leu Thr Leu Gly Val Tyr Asp Tyr Leu Val
3780 3785 3790

Ser Thr Gln Glu Phe Arg Tyr Met Asn Ser Gln Gly Leu Leu Pro Pro
3795 3800 3805

Lys Ser Ser Ile Asp Ala Phe Lys Leu Asn Ile Lys Leu Leu Gly Ile
3810 3815 3820

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Gly Gly Lys Pro Cys Ile Lys Val Ala Thr Val Gln Ser Lys Met Ser
3825 3830 3835 3840

Asp Val Lys Cys Thr Ser Val Val Leu Leu Ser Val Leu Gln Gln Leu
3845 3850 3855

Arg Val Glu Ser Ser Ser Lys Leu Trp Ala Gln Cys Val Gln Leu His
3860 3865 3870

Asn Asp Ile Leu Leu Ala Lys Asp Thr Thr Glu Ala Phe Glu Lys Met
3875 3880 3885

Val Ser Leu Leu Ser Val Leu Leu Ser Met Gln Gly Ala Val Asp Ile
3890 3895 3900

Asn Arg Leu Cys Glu Glu Met Leu Asp Asn Arg Ala Thr Leu Gln Ala
3905 3910 3915 3920

Ile Ala Ser Glu Phe Ser Ser Leu Pro Ser Tyr Ala Ala Tyr Ala Thr
3925 3930 3935

Ala Gln Glu Ala Tyr Glu Gln Ala Val Ala Asn Gly Asp Ser Glu Val
3940 3945 3950

Val Leu Lys Lys Leu Lys Lys Ser Leu Asn Val Ala Lys Ser Glu Phe
3955 3960 3965

Asp Arg Asp Ala Ala Met Gln Arg Lys Leu Glu Lys Met Ala Asp Gln
3970 3975 3980

Ala Met Thr Gln Met Tyr Lys Gln Ala Arg Ser Glu Asp Lys Arg Ala
3985 3990 3995 4000

Lys Val Thr Ser Ala Met Gln Thr Met Leu Phe Thr Met Leu Arg Lys
4005 4010 4015

Leu Asp Asn Asp Ala Leu Asn Asn Ile Ile Asn Asn Ala Arg Asp Gly
4020 4025 4030

Cys Val Pro Leu Asn Ile Ile Pro Leu Thr Thr Ala Ala Lys Leu Met
4035 4040 4045

Val Val Val Pro Asp Tyr Gly Thr Tyr Lys Asn Thr Cys Asp Gly Asn
4050 4055 4060

Thr Phe Thr Tyr Ala Ser Ala Leu Trp Glu Ile Gln Gln Val Val Asp
4065 4070 4075 4080

Ala Asp Ser Lys Ile Val Gln Leu Ser Glu Ile Asn Met Asp Asn Ser
4085 4090 4095

Pro Asn Leu Ala Trp Pro Leu Ile Val Thr Ala Leu Arg Ala Asn Ser
4100 4105 4110

Ala Val Lys Leu Gln Asn Asn Glu Leu Ser Pro Val Ala Leu Arg Gln
4115 4120 4125

Met Ser Cys Ala Ala Gly Thr Thr Gln Thr Ala Cys Thr Asp Asp Asn
4130 4135 4140

Ala Leu Ala Tyr Tyr Asn Asn Ser Lys Gly Gly Arg Phe Val Leu Ala
4145 4150 4155 4160

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Leu Leu Ser Asp His Gln Asp Leu Lys Trp Ala Arg Phe Pro Lys Ser
 4165 4170 4175
 Asp Gly Thr Gly Thr Ile Tyr Thr Glu Leu Glu Pro Pro Cys Arg Phe
 4180 4185 4190
 Val Thr Asp Thr Pro Lys Gly Pro Lys Val Lys Tyr Leu Tyr Phe Ile
 4195 4200 4205
 Lys Gly Leu Asn Asn Leu Asn Arg Gly Met Val Leu Gly Ser Leu Ala
 4210 4215 4220
 Ala Thr Val Arg Leu Gln Ala Gly Asn Ala Thr Glu Val Pro Ala Asn
 4225 4230 4235 4240
 Ser Thr Val Leu Ser Phe Cys Ala Phe Ala Val Asp Pro Ala Lys Ala
 4245 4250 4255
 Tyr Lys Asp Tyr Leu Ala Ser Gly Gly Gln Pro Ile Thr Asn Cys Val
 4260 4265 4270
 Lys Met Leu Cys Thr His Thr Gly Thr Gly Gln Ala Ile Thr Val Thr
 4275 4280 4285
 Pro Glu Ala Asn Met Asp Gln Glu Ser Phe Gly Gly Ala Ser Cys Cys
 4290 4295 4300
 Leu Tyr Cys Arg Cys His Ile Asp His Pro Asn Pro Lys Gly Phe Cys
 4305 4310 4315 4320
 Asp Leu Lys Gly Lys Tyr Val Gln Ile Pro Thr Thr Cys Ala Asn Asp
 4325 4330 4335
 Pro Val Gly Phe Thr Leu Arg Asn Thr Val Cys Thr Val Cys Gly Met
 4340 4345 4350
 Trp Lys Gly Tyr Gly Cys Ser Cys Asp Gln Leu Arg Glu Pro Leu Met
 4355 4360 4365
 Gln Ser Ala Asp Ala Ser Thr Phe Leu Asn Gly Val Ser Ala Ala Arg
 4370 4375 4380
 Leu Thr Pro Cys Gly Thr Gly Thr Ser Thr Asp Val Val Tyr Arg Ala
 4385 4390 4395 4400
 Phe Asp Ile Tyr Asn Glu Lys Val Ala Gly Phe Ala Lys Phe Leu Lys
 4405 4410 4415
 Thr Asn Cys Cys Arg Phe Gln Glu Lys Asp Glu Glu Gly Asn Leu Leu
 4420 4425 4430
 Asp Ser Tyr Phe Val Val Lys Arg His Thr Met Ser Asn Tyr Gln His
 4435 4440 4445
 Glu Glu Thr Ile Tyr Asn Leu Val Lys Asp Cys Pro Ala Val Ala Val
 4450 4455 4460
 His Asp Phe Phe Lys Phe Arg Val Asp Gly Asp Met Val Pro His Ile
 4465 4470 4475 4480
 Ser Arg Gln Arg Leu Thr Lys Tyr Thr Met Ala Asp Leu Val Tyr Ala
 4485 4490 4495

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Leu Arg His Phe Asp Glu Gly Asn Cys Asp Thr Leu Lys Glu Ile Leu
4500 4505 4510

Val Thr Tyr Asn Cys Cys Asp Asp Asp Tyr Phe Asn Lys Lys Asp Trp
4515 4520 4525

Tyr Asp Phe Val Glu Asn Pro Asp Ile Leu Arg Val Tyr Ala Asn Leu
4530 4535 4540

Gly Glu Arg Val Arg Gln Ser Leu Leu Lys Thr Val Gln Phe Cys Asp
4545 4550 4555 4560

Ala Met Arg Asp Ala Gly Ile Val Gly Val Leu Thr Leu Asp Asn Gln
4565 4570 4575

Asp Leu Asn Gly Asn Trp Tyr Asp Phe Gly Asp Phe Val Gln Val Ala
4580 4585 4590

Pro Gly Cys Gly Val Pro Ile Val Asp Ser Tyr Tyr Ser Leu Leu Met
4595 4600 4605

Pro Ile Leu Thr Leu Thr Arg Ala Leu Ala Ala Glu Ser His Met Asp
4610 4615 4620

Ala Asp Leu Ala Lys Pro Leu Ile Lys Trp Asp Leu Leu Lys Tyr Asp
4625 4630 4635 4640

Phe Thr Glu Glu Arg Leu Cys Leu Phe Asp Arg Tyr Phe Lys Tyr Trp
4645 4650 4655

Asp Gln Thr Tyr His Pro Asn Cys Ile Asn Cys Leu Asp Asp Arg Cys
4660 4665 4670

Ile Leu His Cys Ala Asn Phe Asn Val Leu Phe Ser Thr Val Phe Pro
4675 4680 4685

Pro Thr Ser Phe Gly Pro Leu Val Arg Lys Ile Phe Val Asp Gly Val
4690 4695 4700

Pro Phe Val Val Ser Thr Gly Tyr His Phe Arg Glu Leu Gly Val Val
4705 4710 4715 4720

His Asn Gln Asp Val Asn Leu His Ser Ser Arg Leu Ser Phe Lys Glu
4725 4730 4735

Leu Leu Val Tyr Ala Ala Asp Pro Ala Met His Ala Ala Ser Gly Asn
4740 4745 4750

Leu Leu Leu Asp Lys Arg Thr Thr Cys Phe Ser Val Ala Ala Leu Thr
4755 4760 4765

Asn Asn Val Ala Phe Gln Thr Val Lys Pro Gly Asn Phe Asn Lys Asp
4770 4775 4780

Phe Tyr Asp Phe Ala Val Ser Lys Gly Phe Phe Lys Glu Gly Ser Ser
4785 4790 4795 4800

Val Glu Leu Lys His Phe Phe Phe Ala Gln Asp Gly Asn Ala Ala Ile
4805 4810 4815

Ser Asp Tyr Asp Tyr Tyr Arg Tyr Asn Leu Pro Thr Met Cys Asp Ile
4820 4825 4830

SEQLIST-20480.TXT

Arg Gln Leu Leu Phe Val Val Glu Val Val Asp Lys Tyr Phe Asp Cys
4835 4840 4845

Tyr Asp Gly Gly Cys Ile Asn Ala Asn Gln Val Ile Val Asn Asn Leu
4850 4855 4860

Asp Lys Ser Ala Gly Phe Pro Phe Asn Lys Trp Gly Lys Ala Arg Leu
4865 4870 4875 4880

Tyr Tyr Asp Ser Met Ser Tyr Glu Asp Gln Asp Ala Leu Phe Ala Tyr
4885 4890 4895

Thr Lys Arg Asn Val Ile Pro Thr Ile Thr Gln Met Asn Leu Lys Tyr
4900 4905 4910

Ala Ile Ser Ala Lys Asn Arg Ala Arg Thr Val Ala Gly Val Ser Ile
4915 4920 4925

Cys Ser Thr Met Thr Asn Arg Gln Phe His Gln Lys Leu Leu Lys Ser
4930 4935 4940

Ile Ala Ala Thr Arg Gly Ala Thr Val Val Ile Gly Thr Ser Lys Phe
4945 4950 4955 4960

Tyr Gly Gly Trp His Asn Met Leu Lys Thr Val Tyr Ser Asp Val Glu
4965 4970 4975

Thr Pro His Leu Met Gly Trp Asp Tyr Pro Lys Cys Asp Arg Ala Met
4980 4985 4990

Pro Asn Met Leu Arg Ile Met Ala Ser Leu Val Leu Ala Arg Lys His
4995 5000 5005

Asn Thr Cys Cys Asn Leu Ser His Arg Phe Tyr Arg Leu Ala Asn Glu
5010 5015 5020

Cys Ala Gln Val Leu Ser Glu Met Val Met Cys Gly Gly Ser Leu Tyr
5025 5030 5035 5040

Val Lys Pro Gly Gly Thr Ser Ser Gly Asp Ala Thr Thr Ala Tyr Ala
5045 5050 5055

Asn Ser Val Phe Asn Ile Cys Gln Ala Val Thr Ala Asn Val Asn Ala
5060 5065 5070

Leu Leu Ser Thr Asp Gly Asn Lys Ile Ala Asp Lys Tyr Val Arg Asn
5075 5080 5085

Leu Gln His Arg Leu Tyr Glu Cys Leu Tyr Arg Asn Arg Asp Val Asp
5090 5095 5100

His Glu Phe Val Asp Glu Phe Tyr Ala Tyr Leu Arg Lys His Phe Ser
5105 5110 5115 5120

Met Met Ile Leu Ser Asp Asp Ala Val Val Cys Tyr Asn Ser Asn Tyr
5125 5130 5135

Ala Ala Gln Gly Leu Val Ala Ser Ile Lys Asn Phe Lys Ala Val Leu
5140 5145 5150

Tyr Tyr Gln Asn Asn Val Phe Met Ser Glu Ala Lys Cys Trp Thr Glu
5155 5160 5165

SEQLIST-20480.TXT

Thr Asp Leu Thr Lys Gly Pro His Glu Phe Cys Ser Gln His Thr Met
 5170 5175 5180
 Leu Val Lys Gln Gly Asp Asp Tyr Val Tyr Leu Pro Tyr Pro Asp Pro
 5185 5190 5195 5200
 Ser Arg Ile Leu Gly Ala Gly Cys Phe Val Asp Asp Ile Val Lys Thr
 5205 5210 5215
 Asp Gly Thr Leu Met Ile Glu Arg Phe Val Ser Leu Ala Ile Asp Ala
 5220 5225 5230
 Tyr Pro Leu Thr Lys His Pro Asn Gln Glu Tyr Ala Asp Val Phe His
 5235 5240 5245
 Leu Tyr Leu Gln Tyr Ile Arg Lys Leu His Asp Glu Leu Thr Gly His
 5250 5255 5260
 Met Leu Asp Met Tyr Ser Val Met Leu Thr Asn Asp Asn Thr Ser Arg
 5265 5270 5275 5280
 Tyr Trp Glu Pro Glu Phe Tyr Glu Ala Met Tyr Thr Pro His Thr Val
 5285 5290 5295
 Leu Gln Ala Val Gly Ala Cys Val Leu Cys Asn Ser Gln Thr Ser Leu
 5300 5305 5310
 Arg Cys Gly Ala Cys Ile Arg Arg Pro Phe Leu Cys Cys Lys Cys Cys
 5315 5320 5325
 Tyr Asp His Val Ile Ser Thr Ser His Lys Leu Val Leu Ser Val Asn
 5330 5335 5340
 Pro Tyr Val Cys Asn Ala Pro Gly Cys Asp Val Thr Asp Val Thr Gln
 5345 5350 5355 5360
 Leu Tyr Leu Gly Gly Met Ser Tyr Tyr Cys Lys Ser His Lys Pro Pro
 5365 5370 5375
 Ile Ser Phe Pro Leu Cys Ala Asn Gly Gln Val Phe Gly Leu Tyr Lys
 5380 5385 5390
 Asn Thr Cys Val Gly Ser Asp Asn Val Thr Asp Phe Asn Ala Ile Ala
 5395 5400 5405
 Thr Cys Asp Trp Thr Asn Ala Gly Asp Tyr Ile Leu Ala Asn Thr Cys
 5410 5415 5420
 Thr Glu Arg Leu Lys Leu Phe Ala Ala Glu Thr Leu Lys Ala Thr Glu
 5425 5430 5435 5440
 Glu Thr Phe Lys Leu Ser Tyr Gly Ile Ala Thr Val Arg Glu Val Leu
 5445 5450 5455
 Ser Asp Arg Glu Leu His Leu Ser Trp Glu Val Gly Lys Pro Arg Pro
 5460 5465 5470
 Pro Leu Asn Arg Asn Tyr Val Phe Thr Gly Tyr Arg Val Thr Lys Asn
 5475 5480 5485
 Ser Lys Val Gln Ile Gly Glu Tyr Thr Phe Glu Lys Gly Asp Tyr Gly
 5490 5495 5500

SEQLIST-20480.TXT

Asp Ala Val Val Tyr Arg Gly Thr Thr Thr Tyr Lys Leu Asn Val Gly
 5505 5510 5515 5520
 Asp Tyr Phe Val Leu Thr Ser His Thr Val Met Pro Leu Ser Ala Pro
 5525 5530 5535
 Thr Leu Val Pro Gln Glu His Tyr Val Arg Ile Thr Gly Leu Tyr Pro
 5540 5545 5550
 Thr Leu Asn Ile Ser Asp Glu Phe Ser Ser Asn Val Ala Asn Tyr Gln
 5555 5560 5565
 Lys Val Gly Met Gln Lys Tyr Ser Thr Leu Gln Gly Pro Pro Gly Thr
 5570 5575 5580
 Gly Lys Ser His Phe Ala Ile Gly Leu Ala Leu Tyr Tyr Pro Ser Ala
 5585 5590 5595 5600
 Arg Ile Val Tyr Thr Ala Cys Ser His Ala Ala Val Asp Ala Leu Cys
 5605 5610 5615
 Glu Lys Ala Leu Lys Tyr Leu Pro Ile Asp Lys Cys Ser Arg Ile Ile
 5620 5625 5630
 Pro Ala Arg Ala Arg Val Glu Cys Phe Asp Lys Phe Lys Val Asn Ser
 5635 5640 5645
 Thr Leu Glu Gln Tyr Val Phe Cys Thr Val Asn Ala Leu Pro Glu Thr
 5650 5655 5660
 Thr Ala Asp Ile Val Val Phe Asp Glu Ile Ser Met Ala Thr Asn Tyr
 5665 5670 5675 5680
 Asp Leu Ser Val Val Asn Ala Arg Leu Arg Ala Lys His Tyr Val Tyr
 5685 5690 5695
 Ile Gly Asp Pro Ala Gln Leu Pro Ala Pro Arg Thr Leu Leu Thr Lys
 5700 5705 5710
 Gly Thr Leu Glu Pro Glu Tyr Phe Asn Ser Val Cys Arg Leu Met Lys
 5715 5720 5725
 Thr Ile Gly Pro Asp Met Phe Leu Gly Thr Cys Arg Arg Cys Pro Ala
 5730 5735 5740
 Glu Ile Val Asp Thr Val Ser Ala Leu Val Tyr Asp Asn Lys Leu Lys
 5745 5750 5755 5760
 Ala His Lys Asp Lys Ser Ala Gln Cys Phe Lys Met Phe Tyr Lys Gly
 5765 5770 5775
 Val Ile Thr His Asp Val Ser Ser Ala Ile Asn Arg Pro Gln Ile Gly
 5780 5785 5790
 Val Val Arg Glu Phe Leu Thr Arg Asn Pro Ala Trp Arg Lys Ala Val
 5795 5800 5805
 Phe Ile Ser Pro Tyr Asn Ser Gln Asn Ala Val Ala Ser Lys Ile Leu
 5810 5815 5820
 Gly Leu Pro Thr Gln Thr Val Asp Ser Ser Gln Gly Ser Glu Tyr Asp
 5825 5830 5835 5840

SEQLIST-20480.TXT

Tyr Val Ile Phe Thr Gln Thr Thr Glu Thr Ala His Ser Cys Asn Val
5845 5850 5855

Asn Arg Phe Asn Val Ala Ile Thr Arg Ala Lys Ile Gly Ile Leu Cys
5860 5865 5870

Ile Met Ser Asp Arg Asp Leu Tyr Asp Lys Leu Gln Phe Thr Ser Leu
5875 5880 5885

Glu Ile Pro Arg Arg Asn Val Ala Thr Leu Gln Ala Glu Asn Val Thr
5890 5895 5900

Gly Leu Phe Lys Asp Cys Ser Lys Ile Ile Thr Gly Leu His Pro Thr
5905 5910 5915 5920

Gln Ala Pro Thr His Leu Ser Val Asp Ile Lys Phe Lys Thr Glu Gly
5925 5930 5935

Leu Cys Val Asp Ile Pro Gly Ile Pro Lys Asp Met Thr Tyr Arg Arg
5940 5945 5950

Leu Ile Ser Met Met Gly Phe Lys Met Asn Tyr Gln Val Asn Gly Tyr
5955 5960 5965

Pro Asn Met Phe Ile Thr Arg Glu Glu Ala Ile Arg His Val Arg Ala
5970 5975 5980

Trp Ile Gly Phe Asp Val Glu Gly Cys His Ala Thr Arg Asp Ala Val
5985 5990 5995 6000

Gly Thr Asn Leu Pro Leu Gln Leu Gly Phe Ser Thr Gly Val Asn Leu
6005 6010 6015

Val Ala Val Pro Thr Gly Tyr Val Asp Thr Glu Asn Asn Thr Glu Phe
6020 6025 6030

Thr Arg Val Asn Ala Lys Pro Pro Pro Gly Asp Gln Phe Lys His Leu
6035 6040 6045

Ile Pro Leu Met Tyr Lys Gly Leu Pro Trp Asn Val Val Arg Ile Lys
6050 6055 6060

Ile Val Gln Met Leu Ser Asp Thr Leu Lys Gly Leu Ser Asp Arg Val
6065 6070 6075 6080

Val Phe Val Leu Trp Ala His Gly Phe Glu Leu Thr Ser Met Lys Tyr
6085 6090 6095

Phe Val Lys Ile Gly Pro Glu Arg Thr Cys Cys Leu Cys Asp Lys Arg
6100 6105 6110

Ala Thr Cys Phe Ser Thr Ser Ser Asp Thr Tyr Ala Cys Trp Asn His
6115 6120 6125

Ser Val Gly Phe Asp Tyr Val Tyr Asn Pro Phe Met Ile Asp Val Gln
6130 6135 6140

Gln Trp Gly Phe Thr Gly Asn Leu Gln Ser Asn His Asp Gln His Cys
6145 6150 6155 6160

Gln Val His Gly Asn Ala His Val Ala Ser Cys Asp Ala Ile Met Thr
6165 6170 6175

SEQLIST-20480.TXT

Arg Cys Leu Ala Val His Glu Cys Phe Val Lys Arg Val Asp Trp Ser
6180 6185 6190

Val Glu Tyr Pro Ile Ile Gly Asp Glu Leu Arg Val Asn Ser Ala Cys
6195 6200 6205

Arg Lys Val Gln His Met Val Val Lys Ser Ala Leu Leu Ala Asp Lys
6210 6215 6220

Phe Pro Val Leu His Asp Ile Gly Asn Pro Lys Ala Ile Lys Cys Val
6225 6230 6235 6240

Pro Gln Ala Glu Val Glu Trp Lys Phe Tyr Asp Ala Gln Pro Cys Ser
6245 6250 6255

Asp Lys Ala Tyr Lys Ile Glu Glu Leu Phe Tyr Ser Tyr Ala Thr His
6260 6265 6270

His Asp Lys Phe Thr Asp Gly Val Cys Leu Phe Trp Asn Cys Asn Val
6275 6280 6285

Asp Arg Tyr Pro Ala Asn Ala Ile Val Cys Arg Phe Asp Thr Arg Val
6290 6295 6300

Leu Ser Asn Leu Asn Leu Pro Gly Cys Asp Gly Gly Ser Leu Tyr Val
6305 6310 6315 6320

Asn Lys His Ala Phe His Thr Pro Ala Phe Asp Lys Ser Ala Phe Thr
6325 6330 6335

Asn Leu Lys Gln Leu Pro Phe Phe Tyr Tyr Ser Asp Ser Pro Cys Glu
6340 6345 6350

Ser His Gly Lys Gln Val Val Ser Asp Ile Asp Tyr Val Pro Leu Lys
6355 6360 6365

Ser Ala Thr Cys Ile Thr Arg Cys Asn Leu Gly Gly Ala Val Cys Arg
6370 6375 6380

His His Ala Asn Glu Tyr Arg Gln Tyr Leu Asp Ala Tyr Asn Met Met
6385 6390 6395 6400

Ile Ser Ala Gly Phe Ser Leu Trp Ile Tyr Lys Gln Phe Asp Thr Tyr
6405 6410 6415

Asn Leu Trp Asn Thr Phe Thr Arg Leu Gln Ser Leu Glu Asn Val Ala
6420 6425 6430

Tyr Asn Val Val Asn Lys Gly His Phe Asp Gly His Ala Gly Glu Ala
6435 6440 6445

Pro Val Ser Ile Ile Asn Asn Ala Val Tyr Thr Lys Val Asp Gly Ile
6450 6455 6460

Asp Val Glu Ile Phe Glu Asn Lys Thr Thr Leu Pro Val Asn Val Ala
6465 6470 6475 6480

Phe Glu Leu Trp Ala Lys Arg Asn Ile Lys Pro Val Pro Glu Ile Lys
6485 6490 6495

Ile Leu Asn Asn Leu Gly Val Asp Ile Ala Ala Asn Thr Val Ile Trp
6500 6505 6510

SEQLIST-20480.TXT

Asp Tyr Lys Arg Glu Ala Pro Ala His Val Ser Thr Ile Gly Val Cys
 6515 6520 6525
 Thr Met Thr Asp Ile Ala Lys Lys Pro Thr Glu Ser Ala Cys Ser Ser
 6530 6535 6540
 Leu Thr Val Leu Phe Asp Gly Arg Val Glu Gly Gln Val Asp Leu Phe
 6545 6550 6555 6560
 Arg Asn Ala Arg Asn Gly Val Leu Ile Thr Glu Gly Ser Val Lys Gly
 6565 6570 6575
 Leu Thr Pro Ser Lys Gly Pro Ala Gln Ala Ser Val Asn Gly Val Thr
 6580 6585 6590
 Leu Ile Gly Glu Ser Val Lys Thr Gln Phe Asn Tyr Phe Lys Lys Val
 6595 6600 6605
 Asp Gly Ile Ile Gln Gln Leu Pro Glu Thr Tyr Phe Thr Gln Ser Arg
 6610 6615 6620
 Asp Leu Glu Asp Phe Lys Pro Arg Ser Gln Met Glu Thr Asp Phe Leu
 6625 6630 6635 6640
 Glu Leu Ala Met Asp Glu Phe Ile Gln Arg Tyr Lys Leu Glu Gly Tyr
 6645 6650 6655
 Ala Phe Glu His Ile Val Tyr Gly Asp Phe Ser His Gly Gln Leu Gly
 6660 6665 6670
 Gly Leu His Leu Met Ile Gly Leu Ala Lys Arg Ser Gln Asp Ser Pro
 6675 6680 6685
 Leu Lys Leu Glu Asp Phe Ile Pro Met Asp Ser Thr Val Lys Asn Tyr
 6690 6695 6700
 Phe Ile Thr Asp Ala Gln Thr Gly Ser Ser Lys Cys Val Cys Ser Val
 6705 6710 6715 6720
 Ile Asp Leu Leu Leu Asp Asp Phe Val Glu Ile Ile Lys Ser Gln Asp
 6725 6730 6735
 Leu Ser Val Ile Ser Lys Val Val Lys Val Thr Ile Asp Tyr Ala Glu
 6740 6745 6750
 Ile Ser Phe Met Leu Trp Cys Lys Asp Gly His Val Glu Thr Phe Tyr
 6755 6760 6765
 Pro Lys Leu Gln Ala Ser Arg Ala Trp Gln Pro Gly Val Ala Met Pro
 6770 6775 6780
 Asn Leu Tyr Lys Met Gln Arg Met Leu Leu Glu Lys Cys Asp Leu Gln
 6785 6790 6795 6800
 Asn Tyr Gly Glu Asn Ala Val Ile Pro Lys Gly Ile Met Met Asn Val
 6805 6810 6815
 Ala Lys Tyr Thr Gln Leu Cys Gln Tyr Leu Asn Thr Leu Thr Leu Ala
 6820 6825 6830
 Val Pro Tyr Asn Met Arg Val Ile His Phe Gly Ala Gly Ser Asp Lys
 6835 6840 6845

SEQLIST-20480.TXT

Gly Val Ala Pro Gly Thr Ala Val Leu Arg Gln Trp Leu Pro Thr Gly
6850 6855 6860

Thr Leu Leu Val Asp Ser Asp Leu Asn Asp Phe Val Ser Asp Ala Tyr
6865 6870 6875 6880

Ser Thr Leu Ile Gly Asp Cys Ala Thr Val His Thr Ala Asn Lys Trp
6885 6890 6895

Asp Leu Ile Ile Ser Asp Met Tyr Asp Pro Arg Thr Lys His Val Thr
6900 6905 6910

Lys Glu Asn Asp Ser Lys Glu Gly Phe Phe Thr Tyr Leu Cys Gly Phe
6915 6920 6925

Ile Lys Gln Lys Leu Ala Leu Gly Gly Ser Ile Ala Val Lys Ile Thr
6930 6935 6940

Glu His Ser Trp Asn Ala Asp Leu Tyr Lys Leu Met Gly His Phe Ser
6945 6950 6955 6960

Trp Trp Thr Ala Phe Val Thr Asn Val Asn Ala Ser Ser Ser Glu Ala
6965 6970 6975

Phe Leu Ile Gly Ala Asn Tyr Leu Gly Lys Pro Lys Glu Gln Ile Asp
6980 6985 6990

Gly Tyr Thr Met His Ala Asn Tyr Ile Phe Trp Arg Asn Thr Asn Pro
6995 7000 7005

Ile Gln Leu Ser Ser Tyr Ser Leu Phe Asp Met Ser Lys Phe Pro Leu
7010 7015 7020

Lys Leu Arg Gly Thr Ala Val Met Ser Leu Lys Glu Asn Gln Ile Asn
7025 7030 7035 7040

Asp Met Ile Tyr Ser Leu Leu Glu Lys Gly Arg Leu Ile Ile Arg Glu
7045 7050 7055

Asn Asn Arg Val Val Val Ser Ser Asp Ile Leu Val Asn Asn
7060 7065 7070

<210> 7251
<211> 7071
<212> PRT
<213> SARS coronavirus

<400> 7251
Met Glu Ser Leu Val Leu Gly Val Asn Glu Lys Thr His Val Gln Leu
1 5 10 15

Ser Leu Pro Val Leu Gln Val Arg Asp Val Leu Val Arg Gly Phe Gly
20 25 30

Asp Ser Val Glu Glu Ala Leu Ser Glu Ala Arg Glu His Leu Lys Asn
35 40 45

Gly Thr Cys Gly Leu Val Glu Leu Glu Lys Gly Val Leu Pro Gln Leu
50 55 60

Glu Gln Pro Tyr Val Phe Ile Lys Arg Ser Asp Ala Leu Ser Thr Asn
65 70 75 80

SEQLIST-20480.TXT

His Gly His Lys Val Val Glu Leu Val Ala Glu Met Asp Gly Ile Gln
 85 90 95
 Tyr Gly Arg Ser Gly Ile Thr Leu Gly Val Leu Val Pro His Val Gly
 100 105 110
 Glu Thr Pro Ile Ala Tyr Arg Asn Val Leu Leu Arg Lys Asn Gly Asn
 115 120 125
 Lys Gly Ala Gly Gly His Ser Tyr Gly Ile Asp Leu Lys Ser Tyr Asp
 130 135 140
 Leu Gly Asp Glu Leu Gly Thr Asp Pro Ile Glu Asp Tyr Glu Gln Asn
 145 150 155 160
 Trp Asn Thr Lys His Gly Ser Gly Ala Leu Arg Glu Leu Thr Arg Glu
 165 170 175
 Leu Asn Gly Gly Ala Val Thr Arg Tyr Val Asp Asn Asn Phe Cys Gly
 180 185 190
 Pro Asp Gly Tyr Pro Leu Asp Cys Ile Lys Asp Phe Leu Ala Arg Ala
 195 200 205
 Gly Lys Ser Met Cys Thr Leu Ser Glu Gln Leu Asp Tyr Ile Glu Ser
 210 215 220
 Lys Arg Gly Val Tyr Cys Cys Arg Asp His Glu His Glu Ile Ala Trp
 225 230 235 240
 Phe Thr Glu Arg Ser Asp Lys Ser Tyr Glu His Gln Thr Pro Phe Glu
 245 250 255
 Ile Lys Ser Ala Lys Lys Phe Asp Thr Phe Lys Gly Glu Cys Pro Lys
 260 265 270
 Phe Val Phe Pro Leu Asn Ser Lys Val Lys Val Ile Gln Pro Arg Val
 275 280 285
 Glu Lys Lys Lys Thr Glu Gly Phe Met Gly Arg Ile Arg Ser Val Tyr
 290 295 300
 Pro Val Ala Ser Pro Gln Glu Cys Asn Asn Met His Leu Ser Thr Leu
 305 310 315 320
 Met Lys Cys Asn His Cys Asp Glu Val Ser Trp Gln Thr Cys Asp Phe
 325 330 335
 Leu Lys Ala Thr Cys Glu His Cys Gly Thr Glu Asn Leu Val Ile Glu
 340 345 350
 Gly Pro Thr Thr Cys Gly Tyr Leu Pro Thr Asn Ala Val Val Lys Met
 355 360 365
 Pro Cys Pro Ala Cys Gln Asp Pro Glu Ile Gly Pro Glu His Ser Val
 370 375 380
 Ala Asp Tyr His Asn His Ser Asn Ile Glu Thr Arg Leu Arg Lys Gly
 385 390 395 400
 Gly Arg Thr Arg Cys Phe Gly Gly Cys Val Phe Ala Tyr Val Gly Cys
 405 410 415

SEQLIST-20480.TXT

Tyr Asn Lys Arg Ala Tyr Trp Val Pro Arg Ala Ser Ala Asp Ile Gly
 420 425 430
 Ser Gly His Thr Gly Ile Thr Gly Asp Asn Val Glu Thr Leu Asn Glu
 435 440 445
 Asp Leu Leu Glu Ile Leu Ser Arg Glu Arg Val Asn Ile Asn Ile Val
 450 455 460
 Gly Asp Phe His Leu Asn Glu Glu Val Ala Ile Ile Leu Ala Ser Phe
 465 470 475 480
 Ser Ala Ser Thr Ser Ala Phe Ile Asp Thr Ile Lys Ser Leu Asp Tyr
 485 490 495
 Lys Ser Phe Lys Thr Ile Val Glu Ser Cys Gly Asn Tyr Lys Val Thr
 500 505 510
 Lys Gly Lys Pro Val Lys Gly Ala Trp Asn Ile Gly Gln Gln Arg Ser
 515 520 525
 Val Leu Thr Pro Leu Cys Gly Phe Pro Ser Gln Ala Ala Gly Val Ile
 530 535 540
 Arg Ser Ile Phe Ala Arg Thr Leu Asp Ala Ala Asn His Ser Ile Pro
 545 550 555 560
 Asp Leu Gln Arg Ala Ala Val Thr Ile Leu Asp Gly Ile Ser Glu Gln
 565 570 575
 Ser Leu Arg Leu Val Asp Ala Met Val Tyr Thr Ser Asp Leu Leu Thr
 580 585 590
 Asn Ser Val Ile Ile Met Ala Tyr Val Thr Gly Gly Leu Val Gln Gln
 595 600 605
 Thr Ser Gln Trp Leu Ser Asn Leu Leu Gly Thr Thr Val Glu Lys Leu
 610 615 620
 Arg Pro Ile Phe Glu Trp Ile Glu Ala Lys Leu Ser Ala Gly Val Glu
 625 630 635 640
 Phe Leu Lys Asp Ala Trp Glu Ile Leu Lys Phe Leu Ile Thr Gly Val
 645 650 655
 Phe Asp Ile Val Lys Gly Gln Ile Gln Val Ala Ser Asp Asn Ile Lys
 660 665 670
 Asp Cys Val Lys Cys Phe Ile Asp Val Val Asn Lys Ala Leu Glu Met
 675 680 685
 Cys Ile Asp Gln Val Thr Ile Ala Gly Ala Lys Leu Arg Ser Leu Asn
 690 695 700
 Leu Gly Glu Val Phe Ile Ala Gln Ser Lys Gly Leu Tyr Arg Gln Cys
 705 710 715 720
 Ile Arg Gly Lys Glu Gln Leu Gln Leu Leu Met Pro Leu Lys Ala Pro
 725 730 735
 Lys Glu Val Thr Phe Leu Glu Gly Asp Ser His Asp Thr Val Leu Thr
 740 745 750

SEQLIST-20480.TXT

Ser Glu Glu Val Val Leu Lys Asn Gly Glu Leu Glu Ala Leu Glu Thr
755 760 765

Pro Val Asp Ser Phe Thr Asn Gly Ala Ile Val Gly Thr Pro Val Cys
770 775 780

Val Asn Gly Leu Met Leu Leu Glu Ile Lys Asp Lys Glu Gln Tyr Cys
785 790 795 800

Ala Leu Ser Pro Gly Leu Leu Ala Thr Asn Asn Val Phe Arg Leu Lys
805 810 815

Gly Gly Ala Pro Ile Lys Gly Val Thr Phe Gly Glu Asp Thr Val Trp
820 825 830

Glu Val Gln Gly Tyr Lys Asn Val Arg Ile Thr Phe Glu Leu Asp Glu
835 840 845

Arg Val Asp Lys Val Leu Asn Glu Lys Cys Ser Val Tyr Thr Val Glu
850 855 860

Ser Gly Thr Glu Val Thr Glu Phe Ala Cys Val Val Ala Glu Ala Val
865 870 875 880

Val Lys Thr Leu Gln Pro Val Ser Asp Leu Leu Thr Asn Met Gly Ile
885 890 895

Asp Leu Asp Glu Trp Ser Val Ala Thr Phe Tyr Leu Phe Asp Asp Ala
900 905 910

Gly Glu Glu Asn Phe Ser Ser Arg Met Tyr Cys Ser Phe Tyr Pro Pro
915 920 925

Asp Glu Glu Glu Glu Asp Asp Ala Glu Cys Glu Glu Glu Glu Ile Asp
930 935 940

Glu Thr Cys Glu His Glu Tyr Gly Thr Glu Asp Asp Tyr Gln Gly Leu
945 950 955 960

Pro Leu Glu Phe Gly Ala Ser Ala Glu Thr Val Arg Val Glu Glu Glu
965 970 975

Glu Glu Glu Asp Trp Leu Asp Asp Thr Thr Glu Gln Ser Glu Ile Glu
980 985 990

Pro Glu Pro Glu Pro Thr Pro Glu Glu Pro Val Asn Gln Phe Thr Gly
995 1000 1005

Tyr Leu Lys Leu Thr Asp Asn Val Ala Ile Lys Cys Val Asp Ile Val
1010 1015 1020

Lys Glu Ala Gln Ser Ala Asn Pro Met Val Ile Val Asn Ala Ala Asn
1025 1030 1035 1040

Ile His Leu Lys His Gly Gly Gly Val Ala Gly Ala Leu Asn Lys Ala
1045 1050 1055

Thr Asn Gly Ala Met Gln Lys Glu Ser Asp Asp Tyr Ile Lys Leu Asn
1060 1065 1070

Gly Pro Leu Thr Val Gly Gly Ser Cys Leu Leu Ser Gly His Asn Leu
1075 1080 1085

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Ala Lys Lys Cys Leu His Val Val Gly Pro Asn Leu Asn Ala Gly Glu
1090 1095 1100

Asp Ile Gln Leu Leu Lys Ala Ala Tyr Glu Asn Phe Asn Ser Gln Asp
1105 1110 1115 1120

Ile Leu Leu Ala Pro Leu Leu Ser Ala Gly Ile Phe Gly Ala Lys Pro
1125 1130 1135

Leu Gln Ser Leu Gln Val Cys Val Gln Thr Val Arg Thr Gln Val Tyr
1140 1145 1150

Ile Ala Val Asn Asp Lys Ala Leu Tyr Glu Gln Val Val Met Asp Tyr
1155 1160 1165

Leu Asp Asn Leu Lys Pro Arg Val Glu Ala Pro Lys Gln Glu Glu Pro
1170 1175 1180

Pro Asn Thr Glu Asp Ser Lys Thr Glu Glu Lys Ser Val Val Gln Lys
1185 1190 1195 1200

Pro Val Asp Val Lys Pro Lys Ile Lys Ala Cys Ile Asp Glu Val Thr
1205 1210 1215

Thr Thr Leu Glu Glu Thr Lys Phe Leu Thr Asn Lys Leu Leu Leu Phe
1220 1225 1230

Ala Asp Ile Asn Gly Lys Leu Tyr His Asp Ser Gln Asn Met Leu Arg
1235 1240 1245

Gly Glu Asp Met Ser Phe Leu Glu Lys Asp Ala Pro Tyr Met Val Gly
1250 1255 1260

Asp Val Ile Thr Ser Gly Asp Ile Thr Cys Val Val Ile Pro Ser Lys
1265 1270 1275 1280

Lys Ala Gly Gly Thr Thr Glu Met Leu Ser Arg Ala Leu Lys Lys Val
1285 1290 1295

Pro Val Asp Glu Tyr Ile Thr Thr Tyr Pro Gly Gln Gly Cys Ala Gly
1300 1305 1310

Tyr Thr Leu Glu Glu Ala Lys Thr Ala Leu Lys Lys Cys Lys Ser Ala
1315 1320 1325

Phe Tyr Val Leu Pro Ser Glu Ala Pro Asn Ala Lys Glu Glu Ile Leu
1330 1335 1340

Gly Thr Val Ser Trp Asn Leu Arg Glu Met Leu Ala His Ala Glu Glu
1345 1350 1355 1360

Thr Arg Lys Leu Met Pro Ile Cys Met Asp Val Arg Ala Ile Met Ala
1365 1370 1375

Thr Ile Gln Arg Lys Tyr Lys Gly Ile Lys Ile Gln Glu Gly Ile Val
1380 1385 1390

Asp Tyr Gly Val Arg Phe Phe Phe Tyr Thr Ser Lys Glu Pro Val Ala
1395 1400 1405

Ser Ile Ile Thr Lys Leu Asn Ser Leu Asn Glu Pro Leu Val Thr Met
1410 1415 1420

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Pro Ile Gly Tyr Val Thr His Gly Phe Asn Leu Glu Glu Ala Ala Arg
1425 1430 1435 1440

Cys Met Arg Ser Leu Lys Ala Pro Ala Val Val Ser Val Ser Ser Pro
1445 1450 1455

Asp Ala Val Thr Thr Tyr Asn Gly Tyr Leu Thr Ser Ser Ser Lys Thr
1460 1465 1470

Ser Glu Glu His Phe Val Glu Thr Val Ser Leu Ala Gly Ser Tyr Arg
1475 1480 1485

Asp Trp Ser Tyr Ser Gly Gln Arg Thr Glu Leu Gly Val Glu Phe Leu
1490 1495 1500

Lys Arg Gly Asp Lys Ile Val Tyr His Thr Leu Glu Ser Pro Val Glu
1505 1510 1515 1520

Phe His Leu Asp Gly Glu Val Leu Ser Leu Asp Lys Leu Lys Ser Leu
1525 1530 1535

Leu Ser Leu Arg Glu Val Lys Thr Ile Lys Val Phe Thr Thr Val Asp
1540 1545 1550

Asn Thr Asn Leu His Thr Gln Leu Val Asp Met Ser Met Thr Tyr Gly
1555 1560 1565

Gln Gln Phe Gly Pro Thr Tyr Leu Asp Gly Ala Asp Val Thr Lys Ile
1570 1575 1580

Lys Pro His Val Asn His Glu Gly Lys Thr Phe Phe Val Leu Pro Ser
1585 1590 1595 1600

Asp Asp Thr Leu Arg Ser Glu Ala Phe Glu Tyr Tyr His Thr Leu Asp
1605 1610 1615

Glu Ser Phe Leu Gly Arg Tyr Met Ser Ala Leu Asn His Thr Lys Lys
1620 1625 1630

Trp Lys Phe Pro Gln Val Gly Gly Leu Thr Ser Ile Lys Trp Ala Asp
1635 1640 1645

Asn Asn Cys Tyr Leu Ser Ser Val Leu Leu Ala Leu Gln Gln Leu Glu
1650 1655 1660

Val Lys Phe Asn Ala Pro Ala Leu Gln Glu Ala Tyr Tyr Arg Ala Arg
1665 1670 1675 1680

Ala Gly Asp Ala Ala Asn Phe Cys Ala Leu Ile Leu Ala Tyr Ser Asn
1685 1690 1695

Lys Thr Val Gly Glu Leu Gly Asp Val Arg Glu Thr Met Thr His Leu
1700 1705 1710

Leu Gln His Ala Asn Leu Glu Ser Ala Lys Arg Val Leu Asn Val Val
1715 1720 1725

Cys Lys His Cys Gly Gln Lys Thr Thr Thr Leu Thr Gly Val Glu Ala
1730 1735 1740

Val Met Tyr Met Gly Thr Leu Ser Tyr Asp Asn Leu Lys Thr Gly Val
1745 1750 1755 1760

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Ser Ile Pro Cys Val Cys Gly Arg Asp Ala Thr Gln Tyr Leu Val Gln
1765 1770 1775

Gln Glu Ser Ser Phe Val Met Met Ser Ala Pro Pro Ala Glu Tyr Lys
1780 1785 1790

Leu Gln Gln Gly Thr Phe Leu Cys Ala Asn Glu Tyr Thr Gly Asn Tyr
1795 1800 1805

Gln Cys Gly His Tyr Thr His Ile Thr Ala Lys Glu Thr Leu Tyr Arg
1810 1815 1820

Ile Asp Gly Ala His Leu Thr Lys Met Ser Glu Tyr Lys Gly Pro Val
1825 1830 1835 1840

Thr Asp Val Phe Tyr Lys Glu Thr Ser Tyr Thr Thr Thr Ile Lys Pro
1845 1850 1855

Val Ser Tyr Lys Leu Asp Gly Val Thr Tyr Thr Glu Ile Glu Pro Lys
1860 1865 1870

Leu Asp Gly Tyr Tyr Lys Lys Asp Asn Ala Tyr Tyr Thr Glu Gln Pro
1875 1880 1885

Ile Asp Leu Val Pro Thr Gln Pro Leu Pro Asn Ala Ser Phe Asp Asn
1890 1895 1900

Phe Lys Leu Thr Cys Ser Asn Thr Lys Phe Ala Asp Asp Leu Asn Gln
1905 1910 1915 1920

Met Thr Gly Phe Thr Lys Pro Ala Ser Arg Glu Leu Ser Val Thr Phe
1925 1930 1935

Phe Pro Asp Leu Asn Gly Asp Val Val Ala Ile Asp Tyr Arg His Tyr
1940 1945 1950

Ser Ala Ser Phe Lys Lys Gly Ala Lys Leu Leu His Lys Pro Ile Val
1955 1960 1965

Trp His Ile Asn Gln Ala Thr Thr Lys Thr Thr Phe Lys Pro Asn Thr
1970 1975 1980

Trp Cys Leu Arg Cys Leu Trp Ser Thr Lys Pro Val Asp Thr Ser Asn
1985 1990 1995 2000

Ser Phe Glu Val Leu Ala Val Glu Asp Thr Gln Gly Met Asp Asn Leu
2005 2010 2015

Ala Cys Glu Ser Gln Gln Pro Thr Ser Glu Glu Val Val Glu Asn Pro
2020 2025 2030

Thr Ile Gln Lys Glu Val Ile Glu Cys Asp Val Lys Thr Thr Glu Val
2035 2040 2045

Val Gly Asn Val Ile Leu Lys Pro Ser Asp Glu Gly Val Lys Val Thr
2050 2055 2060

Gln Glu Leu Gly His Glu Asp Leu Met Ala Ala Tyr Val Glu Asn Thr
2065 2070 2075 2080

Ser Ile Thr Ile Lys Lys Pro Asn Glu Leu Ser Leu Ala Leu Gly Leu
2085 2090 2095

SEQLIST-20480.TXT

Lys Thr Ile Ala Thr His Gly Ile Ala Ala Ile Asn Ser Val Pro Trp
2100 2105 2110

Ser Lys Ile Leu Ala Tyr Val Lys Pro Phe Leu Gly Gln Ala Ala Ile
2115 2120 2125

Thr Thr Ser Asn Cys Ala Lys Arg Leu Ala Gln Arg Val Phe Asn Asn
2130 2135 2140

Tyr Met Pro Tyr Val Phe Thr Leu Leu Phe Gln Leu Cys Thr Phe Thr
2145 2150 2155 2160

Lys Ser Thr Asn Ser Arg Ile Arg Ala Ser Leu Pro Thr Thr Ile Ala
2165 2170 2175

Lys Asn Ser Val Lys Ser Val Ala Lys Leu Cys Leu Asp Ala Gly Ile
2180 2185 2190

Asn Tyr Val Lys Ser Pro Lys Phe Ser Lys Leu Phe Thr Ile Ala Met
2195 2200 2205

Trp Leu Leu Leu Leu Ser Ile Cys Leu Gly Ser Leu Ile Cys Val Thr
2210 2215 2220

Ala Ala Phe Gly Val Leu Leu Ser Asn Phe Gly Ala Pro Ser Tyr Cys
2225 2230 2235 2240

Asn Gly Val Arg Glu Leu Tyr Leu Asn Ser Ser Asn Val Thr Thr Met
2245 2250 2255

Asp Phe Cys Glu Gly Ser Phe Pro Cys Ser Ile Cys Leu Ser Gly Leu
2260 2265 2270

Asp Ser Leu Asp Ser Tyr Pro Ala Leu Glu Thr Ile Gln Val Thr Ile
2275 2280 2285

Ser Ser Tyr Lys Leu Asp Leu Thr Ile Leu Gly Leu Ala Ala Glu Trp
2290 2295 2300

Val Leu Ala Tyr Met Leu Phe Thr Lys Phe Phe Tyr Leu Leu Gly Leu
2305 2310 2315 2320

Ser Ala Ile Met Gln Val Phe Phe Gly Tyr Phe Ala Ser His Phe Ile
2325 2330 2335

Ser Asn Ser Trp Leu Met Trp Phe Ile Ile Ser Ile Val Gln Met Ala
2340 2345 2350

Pro Val Ser Ala Met Val Arg Met Tyr Ile Phe Phe Ala Ser Phe Tyr
2355 2360 2365

Tyr Ile Trp Lys Ser Tyr Val His Ile Met Asp Gly Cys Thr Ser Ser
2370 2375 2380

Thr Cys Met Met Cys Tyr Lys Arg Asn Arg Ala Thr Arg Val Glu Cys
2385 2390 2395 2400

Thr Thr Ile Val Asn Gly Met Lys Arg Ser Phe Tyr Val Tyr Ala Asn
2405 2410 2415

Gly Gly Arg Gly Phe Cys Lys Thr His Asn Trp Asn Cys Leu Asn Cys
2420 2425 2430

SEQLIST-20480.TXT

Asp Thr Phe Cys Thr Gly Ser Thr Phe Ile Ser Asp Glu Val Ala Arg
2435 2440 2445

Asp Leu Ser Leu Gln Phe Lys Arg Pro Ile Asn Pro Thr Asp Gln Ser
2450 2455 2460

Ser Tyr Ile Val Asp Ser Val Ala Val Lys Asn Gly Ala Leu His Leu
2465 2470 2475 2480

Tyr Phe Asp Lys Ala Gly Gln Lys Thr Tyr Glu Arg His Pro Leu Ser
2485 2490 2495

His Phe Val Asn Leu Asp Asn Leu Arg Ala Asn Asn Thr Lys Gly Ser
2500 2505 2510

Leu Pro Ile Asn Val Ile Val Phe Asp Gly Lys Ser Lys Cys Asp Glu
2515 2520 2525

Ser Ala Ser Lys Ser Ala Ser Val Tyr Tyr Ser Gln Leu Met Cys Gln
2530 2535 2540

Pro Ile Leu Leu Leu Asp Gln Ala Leu Val Ser Asp Val Gly Asp Ser
2545 2550 2555 2560

Thr Glu Val Ser Val Lys Met Phe Asp Ala Tyr Val Asp Thr Phe Ser
2565 2570 2575

Ala Thr Phe Ser Val Pro Met Glu Lys Leu Lys Ala Leu Val Ala Thr
2580 2585 2590

Ala His Ser Glu Leu Ala Lys Gly Val Ala Leu Asp Gly Val Leu Ser
2595 2600 2605

Thr Phe Val Ser Ala Ala Arg Gln Gly Val Val Asp Thr Asp Val Asp
2610 2615 2620

Thr Lys Asp Val Ile Glu Cys Leu Lys Leu Ser His His Ser Asp Leu
2625 2630 2635 2640

Glu Val Thr Gly Asp Ser Cys Asn Asn Phe Met Leu Thr Tyr Asn Lys
2645 2650 2655

Val Glu Asn Met Thr Pro Arg Asp Leu Gly Ala Cys Ile Asp Cys Asn
2660 2665 2670

Ala Arg His Ile Asn Ala Gln Val Ala Lys Ser His Asn Val Ser Leu
2675 2680 2685

Ile Trp Asn Val Lys Asp Tyr Met Ser Leu Ser Glu Gln Leu Arg Lys
2690 2695 2700

Gln Ile Arg Ser Ala Ala Lys Lys Asn Asn Ile Pro Phe Arg Leu Thr
2705 2710 2715 2720

Cys Ala Thr Thr Arg Gln Val Val Asn Val Ile Thr Thr Lys Ile Ser
2725 2730 2735

Leu Lys Gly Gly Lys Ile Val Ser Thr Cys Phe Lys Leu Met Leu Lys
2740 2745 2750

Ala Thr Leu Leu Cys Val Leu Ala Ala Leu Val Cys Tyr Ile Val Met
2755 2760 2765

SEQLIST-20480.TXT

Pro Val His Thr Leu Ser Ile His Asp Gly Tyr Thr Asn Glu Ile Ile
2770 2775 2780

Gly Tyr Lys Ala Ile Gln Asp Gly Val Thr Arg Asp Ile Ile Ser Thr
2785 2790 2795 2800

Asp Asp Cys Phe Ala Asn Lys His Ala Gly Phe Asp Ala Trp Phe Ser
2805 2810 2815

Gln Arg Gly Gly Ser Tyr Lys Asn Asp Lys Ser Cys Pro Val Val Ala
2820 2825 2830

Ala Ile Ile Thr Arg Glu Ile Gly Phe Ile Val Pro Gly Leu Pro Gly
2835 2840 2845

Thr Val Leu Arg Ala Ile Asn Gly Asp Phe Leu His Phe Leu Pro Arg
2850 2855 2860

Val Phe Ser Ala Val Gly Asn Ile Cys Tyr Thr Pro Ser Lys Leu Ile
2865 2870 2875 2880

Glu Tyr Ser Asp Phe Ala Thr Ser Ala Cys Val Leu Ala Ala Glu Cys
2885 2890 2895

Thr Ile Phe Lys Asp Ala Met Gly Lys Pro Val Pro Tyr Cys Tyr Asp
2900 2905 2910

Thr Asn Leu Leu Glu Gly Ser Ile Ser Tyr Ser Glu Leu Arg Pro Asp
2915 2920 2925

Thr Arg Tyr Val Leu Met Asp Gly Ser Ile Ile Gln Phe Pro Asn Thr
2930 2935 2940

Tyr Leu Glu Gly Ser Val Arg Val Val Thr Thr Phe Asp Ala Glu Tyr
2945 2950 2955 2960

Cys Arg His Gly Thr Cys Glu Arg Ser Glu Val Gly Ile Cys Leu Ser
2965 2970 2975

Thr Ser Gly Arg Trp Val Leu Asn Asn Glu His Tyr Arg Ala Leu Ser
2980 2985 2990

Gly Val Phe Cys Gly Val Asp Ala Met Asn Leu Ile Ala Asn Ile Phe
2995 3000 3005

Thr Pro Leu Val Gln Pro Val Gly Ala Leu Asp Val Ser Ala Ser Val
3010 3015 3020

Val Ala Gly Gly Ile Ile Ala Ile Leu Val Thr Cys Ala Ala Tyr Tyr
3025 3030 3035 3040

Phe Met Lys Phe Arg Arg Val Phe Gly Glu Tyr Asn His Val Val Ala
3045 3050 3055

Ala Asn Ala Leu Leu Phe Leu Met Ser Phe Thr Ile Leu Cys Leu Val
3060 3065 3070

Pro Ala Tyr Ser Phe Leu Pro Gly Val Tyr Ser Val Phe Tyr Leu Tyr
3075 3080 3085

Leu Thr Phe Tyr Phe Thr Asn Asp Val Ser Phe Leu Ala His Leu Gln
3090 3095 3100

SEQLIST-20480.TXT

Trp Phe Ala Met Phe Ser Pro Ile Val Pro Phe Trp Ile Thr Ala Ile
3105 3110 3115 3120

Tyr Val Phe Cys Ile Ser Leu Lys His Cys His Trp Phe Phe Asn Asn
3125 3130 3135

Tyr Leu Arg Lys Arg Val Met Phe Asn Gly Val Thr Phe Ser Thr Phe
3140 3145 3150

Glu Glu Ala Ala Leu Cys Thr Phe Leu Leu Asn Lys Glu Met Tyr Leu
3155 3160 3165

Lys Leu Arg Ser Glu Thr Leu Leu Pro Leu Thr Gln Tyr Asn Arg Tyr
3170 3175 3180

Leu Ala Leu Tyr Asn Lys Tyr Lys Tyr Phe Ser Gly Ala Leu Asp Thr
3185 3190 3195 3200

Thr Ser Tyr Arg Glu Ala Ala Cys Cys His Leu Ala Lys Ala Leu Asn
3205 3210 3215

Asp Phe Ser Asn Ser Gly Ala Asp Val Leu Tyr Gln Pro Pro Gln Thr
3220 3225 3230

Ser Ile Thr Ser Ala Val Leu Gln Ser Gly Phe Arg Lys Met Ala Phe
3235 3240 3245

Pro Ser Gly Lys Val Glu Gly Cys Met Val Gln Val Thr Cys Gly Thr
3250 3255 3260

Thr Thr Leu Asn Gly Leu Trp Leu Asp Asp Thr Val Tyr Cys Pro Arg
3265 3270 3275 3280

His Val Ile Cys Thr Ala Glu Asp Met Leu Asn Pro Asn Tyr Glu Asp
3285 3290 3295

Leu Leu Ile Arg Lys Ser Asn His Ser Phe Leu Val Gln Ala Gly Asn
3300 3305 3310

Val Gln Leu Arg Val Ile Gly His Ser Met Gln Asn Cys Leu Leu Arg
3315 3320 3325

Leu Lys Val Asp Thr Ser Asn Pro Lys Thr Pro Lys Tyr Lys Phe Val
3330 3335 3340

Arg Ile Gln Pro Gly Gln Thr Phe Ser Val Leu Ala Cys Tyr Asn Gly
3345 3350 3355 3360

Ser Pro Ser Gly Val Tyr Gln Cys Ala Met Arg Pro Asn His Thr Ile
3365 3370 3375

Lys Gly Ser Phe Leu Asn Gly Ser Cys Gly Ser Val Gly Phe Asn Ile
3380 3385 3390

Asp Tyr Asp Cys Val Ser Phe Cys Tyr Met His His Met Glu Leu Pro
3395 3400 3405

Thr Gly Val His Ala Gly Thr Asp Leu Glu Gly Lys Phe Tyr Gly Pro
3410 3415 3420

Phe Val Asp Arg Gln Thr Ala Gln Ala Ala Gly Thr Asp Thr Thr Ile
3425 3430 3435 3440

SEQLIST-20480.TXT

Thr Leu Asn Val Leu Ala Trp Leu Tyr Ala Ala Val Ile Asn Gly Asp
3445 3450 3455

Arg Trp Phe Leu Asn Arg Phe Thr Thr Thr Leu Asn Asp Phe Asn Leu
3460 3465 3470

Val Ala Met Lys Tyr Asn Tyr Glu Pro Leu Thr Gln Asp His Val Asp
3475 3480 3485

Ile Leu Gly Pro Leu Ser Ala Gln Thr Gly Ile Ala Val Leu Asp Met
3490 3495 3500

Cys Ala Ala Leu Lys Glu Leu Leu Gln Asn Gly Met Asn Gly Arg Thr
3505 3510 3515 3520

Ile Leu Gly Ser Thr Ile Leu Glu Asp Glu Phe Thr Pro Phe Asp Val
3525 3530 3535

Val Arg Gln Cys Ser Gly Val Thr Phe Gln Gly Lys Phe Lys Lys Ile
3540 3545 3550

Val Lys Gly Thr His His Trp Met Leu Leu Thr Phe Leu Thr Ser Leu
3555 3560 3565

Leu Ile Leu Val Gln Ser Thr Gln Trp Ser Leu Phe Phe Phe Val Tyr
3570 3575 3580

Glu Asn Ala Phe Leu Pro Phe Thr Leu Gly Ile Met Ala Ile Ala Ala
3585 3590 3595 3600

Cys Ala Met Leu Leu Val Lys His Lys His Ala Phe Leu Cys Leu Phe
3605 3610 3615

Leu Leu Pro Ser Leu Ala Thr Val Ala Tyr Phe Asn Met Val Tyr Met
3620 3625 3630

Pro Ala Ser Trp Val Met Arg Ile Met Thr Trp Leu Glu Leu Ala Asp
3635 3640 3645

Thr Ser Leu Ser Gly Tyr Arg Leu Lys Asp Cys Val Met Tyr Ala Ser
3650 3655 3660

Ala Leu Val Leu Leu Ile Leu Met Thr Ala Arg Thr Val Tyr Asp Asp
3665 3670 3675 3680

Ala Ala Arg Arg Val Trp Thr Leu Met Asn Val Ile Thr Leu Val Tyr
3685 3690 3695

Lys Val Tyr Tyr Gly Asn Ala Leu Asp Gln Ala Ile Ser Met Trp Ala
3700 3705 3710

Leu Val Ile Ser Val Thr Ser Asn Tyr Ser Gly Val Val Thr Thr Ile
3715 3720 3725

Met Phe Leu Ala Arg Ala Ile Val Phe Val Cys Val Glu Tyr Tyr Pro
3730 3735 3740

Leu Leu Phe Ile Thr Gly Asn Thr Leu Gln Cys Ile Met Leu Val Tyr
3745 3750 3755 3760

Cys Phe Leu Gly Tyr Cys Cys Cys Cys Tyr Phe Gly Leu Phe Cys Leu
3765 3770 3775

SEQLIST-20480.TXT

Leu Asn Arg Tyr Phe Arg Leu Thr Leu Gly Val Tyr Asp Tyr Leu Val
3780 3785 3790

Ser Thr Gln Glu Phe Arg Tyr Met Asn Ser Gln Gly Leu Leu Pro Pro
3795 3800 3805

Lys Ser Ser Ile Asp Ala Phe Lys Leu Asn Ile Lys Leu Leu Gly Ile
3810 3815 3820

Gly Gly Lys Pro Cys Ile Lys Val Ala Thr Val Gln Ser Lys Met Ser
3825 3830 3835 3840

Asp Val Lys Cys Thr Ser Val Val Leu Leu Ser Val Leu Gln Gln Leu
3845 3850 3855

Arg Val Glu Ser Ser Ser Lys Leu Trp Ala Gln Cys Val Gln Leu His
3860 3865 3870

Asn Asp Ile Leu Leu Ala Lys Asp Thr Thr Glu Ala Phe Glu Lys Met
3875 3880 3885

Val Ser Leu Leu Ser Val Leu Leu Ser Met Gln Gly Ala Val Asp Ile
3890 3895 3900

Asn Arg Leu Cys Glu Glu Met Leu Asp Asn Arg Ala Thr Leu Gln Ala
3905 3910 3915 3920

Ile Ala Ser Glu Phe Ser Ser Leu Pro Ser Tyr Ala Ala Tyr Ala Thr
3925 3930 3935

Ala Gln Glu Ala Tyr Glu Gln Ala Val Ala Asn Gly Asp Ser Glu Val
3940 3945 3950

Val Leu Lys Lys Leu Lys Lys Ser Leu Asn Val Ala Lys Ser Glu Phe
3955 3960 3965

Asp Arg Asp Ala Ala Met Gln Arg Lys Leu Glu Lys Met Ala Asp Gln
3970 3975 3980

Ala Met Thr Gln Met Tyr Lys Gln Ala Arg Ser Glu Asp Lys Arg Ala
3985 3990 3995 4000

Lys Val Thr Ser Ala Met Gln Thr Met Leu Phe Thr Met Leu Arg Lys
4005 4010 4015

Leu Asp Asn Asp Ala Leu Asn Asn Ile Ile Asn Asn Ala Arg Asp Gly
4020 4025 4030

Cys Val Pro Leu Asn Ile Ile Pro Leu Thr Thr Ala Ala Lys Leu Met
4035 4040 4045

Val Val Val Pro Asp Tyr Gly Thr Tyr Lys Asn Thr Cys Asp Gly Asn
4050 4055 4060

Thr Phe Thr Tyr Ala Ser Ala Leu Trp Glu Ile Gln Gln Val Val Asp
4065 4070 4075 4080

Ala Asp Ser Lys Ile Val Gln Leu Ser Glu Ile Asn Met Asp Asn Ser
4085 4090 4095

Pro Asn Leu Ala Trp Pro Leu Ile Val Thr Ala Leu Arg Ala Asn Ser
4100 4105 4110

SEQLIST-20480.TXT

Ala Val Lys Leu Gln Asn Asn Glu Leu Ser Pro Val Ala Leu Arg Gln
4115 4120 4125

Met Ser Cys Ala Ala Gly Thr Thr Gln Thr Ala Cys Thr Asp Asp Asn
4130 4135 4140

Ala Leu Ala Tyr Tyr Asn Asn Ser Lys Gly Gly Arg Phe Val Leu Ala
4145 4150 4155 4160

Leu Leu Ser Asp His Gln Asp Leu Lys Trp Ala Arg Phe Pro Lys Ser
4165 4170 4175

Asp Gly Thr Gly Thr Ile Tyr Thr Glu Leu Glu Pro Pro Cys Arg Phe
4180 4185 4190

Val Thr Asp Thr Pro Lys Gly Pro Lys Val Lys Tyr Leu Tyr Phe Ile
4195 4200 4205

Lys Gly Leu Asn Asn Leu Asn Arg Gly Met Val Leu Gly Ser Leu Ala
4210 4215 4220

Ala Thr Val Arg Leu Gln Ala Gly Asn Ala Thr Glu Val Pro Ala Asn
4225 4230 4235 4240

Ser Thr Val Leu Ser Phe Cys Ala Phe Ala Val Asp Pro Ala Lys Ala
4245 4250 4255

Tyr Lys Asp Tyr Leu Ala Ser Gly Gly Gln Pro Ile Thr Asn Cys Val
4260 4265 4270

Lys Met Leu Cys Thr His Thr Gly Thr Gly Gln Ala Ile Thr Val Thr
4275 4280 4285

Pro Glu Ala Asn Met Asp Gln Glu Ser Phe Gly Gly Ala Ser Cys Cys
4290 4295 4300

Leu Tyr Cys Arg Cys His Ile Asp His Pro Asn Pro Lys Gly Phe Cys
4305 4310 4315 4320

Asp Leu Lys Gly Lys Tyr Val Gln Ile Pro Thr Thr Cys Ala Asn Asp
4325 4330 4335

Pro Val Gly Phe Thr Leu Arg Asn Thr Val Cys Thr Val Cys Gly Met
4340 4345 4350

Trp Lys Gly Tyr Gly Cys Ser Cys Asp Gln Leu Arg Glu Pro Leu Met
4355 4360 4365

Gln Ser Ala Asp Ala Ser Thr Phe Leu Asn Arg Gly Val Ser Ala Ala
4370 4375 4380

Arg Leu Thr Pro Cys Gly Thr Gly Thr Ser Thr Asp Val Val Tyr Arg
4385 4390 4395 4400

Ala Phe Asp Ile Tyr Asn Glu Lys Val Ala Gly Phe Ala Lys Phe Leu
4405 4410 4415

Lys Thr Asn Cys Cys Arg Phe Gln Glu Lys Asp Glu Glu Gly Asn Leu
4420 4425 4430

Leu Asp Ser Tyr Phe Val Val Lys Arg His Thr Met Ser Asn Tyr Gln
4435 4440 4445

SEQLIST-20480.TXT

His Glu Glu Thr Ile Tyr Asn Leu Val Lys Asp Cys Pro Ala Val Ala
 4450 4455 4460
 Val His Asp Phe Phe Lys Phe Arg Val Asp Gly Asp Met Val Pro His
 4465 4470 4475 4480
 Ile Ser Arg Gln Arg Leu Thr Lys Tyr Thr Met Ala Asp Leu Val Tyr
 4485 4490 4495
 Ala Leu Arg His Phe Asp Glu Gly Asn Cys Asp Thr Leu Lys Glu Ile
 4500 4505 4510
 Leu Val Thr Tyr Asn Cys Cys Asp Asp Asp Tyr Phe Asn Lys Lys Asp
 4515 4520 4525
 Trp Tyr Asp Phe Val Glu Asn Pro Asp Ile Leu Arg Val Tyr Ala Asn
 4530 4535 4540
 Leu Gly Glu Arg Val Arg Gln Ser Leu Leu Lys Thr Val Gln Phe Cys
 4545 4550 4555 4560
 Asp Ala Met Arg Asp Ala Gly Ile Val Gly Val Leu Thr Leu Asp Asn
 4565 4570 4575
 Gln Asp Leu Asn Gly Asn Trp Tyr Asp Phe Gly Asp Phe Val Gln Val
 4580 4585 4590
 Ala Pro Gly Cys Gly Val Pro Ile Val Asp Ser Tyr Tyr Ser Leu Leu
 4595 4600 4605
 Met Pro Ile Leu Thr Leu Thr Arg Ala Leu Ala Ala Glu Ser His Met
 4610 4615 4620
 Asp Ala Asp Leu Ala Lys Pro Leu Ile Lys Trp Asp Leu Leu Lys Tyr
 4625 4630 4635 4640
 Asp Phe Thr Glu Glu Arg Leu Cys Leu Phe Asp Arg Tyr Phe Lys Tyr
 4645 4650 4655
 Trp Asp Gln Thr Tyr His Pro Asn Cys Ile Asn Cys Leu Asp Asp Arg
 4660 4665 4670
 Cys Ile Leu His Cys Ala Asn Phe Asn Val Leu Phe Ser Thr Val Phe
 4675 4680 4685
 Pro Pro Thr Ser Phe Gly Pro Leu Val Arg Lys Ile Phe Val Asp Gly
 4690 4695 4700
 Val Pro Phe Val Val Ser Thr Gly Tyr His Phe Arg Glu Leu Gly Val
 4705 4710 4715 4720
 Val His Asn Gln Asp Val Asn Leu His Ser Ser Arg Leu Ser Phe Lys
 4725 4730 4735
 Glu Leu Leu Val Tyr Ala Ala Asp Pro Ala Met His Ala Ala Ser Gly
 4740 4745 4750
 Asn Leu Leu Leu Asp Lys Arg Thr Thr Cys Phe Ser Val Ala Ala Leu
 4755 4760 4765
 Thr Asn Asn Val Ala Phe Gln Thr Val Lys Pro Gly Asn Phe Asn Lys
 4770 4775 4780

SEQLIST-20480.TXT

Asp Phe Tyr Asp Phe Ala Val Ser Lys Gly Phe Phe Lys Glu Gly Ser
 4785 4790 4795 4800
 Ser Val Glu Leu Lys His Phe Phe Phe Ala Gln Asp Gly Asn Ala Ala
 4805 4810 4815
 Ile Ser Asp Tyr Asp Tyr Tyr Arg Tyr Asn Leu Pro Thr Met Cys Asp
 4820 4825 4830
 Ile Arg Gln Leu Leu Phe Val Val Glu Val Val Asp Lys Tyr Phe Asp
 4835 4840 4845
 Cys Tyr Asp Gly Gly Cys Ile Asn Ala Asn Gln Val Ile Val Asn Asn
 4850 4855 4860
 Leu Asp Lys Ser Ala Gly Phe Pro Phe Asn Lys Trp Gly Lys Ala Arg
 4865 4870 4875 4880
 Leu Tyr Tyr Asp Ser Met Ser Tyr Glu Asp Gln Asp Ala Leu Phe Ala
 4885 4890 4895
 Tyr Thr Lys Arg Asn Val Ile Pro Thr Ile Thr Gln Met Asn Leu Lys
 4900 4905 4910
 Tyr Ala Ile Ser Ala Lys Asn Arg Ala Arg Thr Val Ala Gly Val Ser
 4915 4920 4925
 Ile Cys Ser Thr Met Thr Asn Arg Gln Phe His Gln Lys Leu Leu Lys
 4930 4935 4940
 Ser Ile Ala Ala Thr Arg Gly Ala Thr Val Val Ile Gly Thr Ser Lys
 4945 4950 4955 4960
 Phe Tyr Gly Gly Trp His Asn Met Leu Lys Thr Val Tyr Ser Asp Val
 4965 4970 4975
 Glu Thr Pro His Leu Met Gly Trp Asp Tyr Pro Lys Cys Asp Arg Ala
 4980 4985 4990
 Met Pro Asn Met Leu Arg Ile Met Ala Ser Leu Val Leu Ala Arg Lys
 4995 5000 5005
 His Asn Thr Cys Cys Asn Leu Ser His Arg Phe Tyr Arg Leu Ala Asn
 5010 5015 5020
 Glu Cys Ala Gln Val Leu Ser Glu Met Val Met Cys Gly Gly Ser Leu
 5025 5030 5035 5040
 Tyr Val Lys Pro Gly Gly Thr Ser Ser Gly Asp Ala Thr Thr Ala Tyr
 5045 5050 5055
 Ala Asn Ser Val Phe Asn Ile Cys Gln Ala Val Thr Ala Asn Val Asn
 5060 5065 5070
 Ala Leu Leu Ser Thr Asp Gly Asn Lys Ile Ala Asp Lys Tyr Val Arg
 5075 5080 5085
 Asn Leu Gln His Arg Leu Tyr Glu Cys Leu Tyr Arg Asn Arg Asp Val
 5090 5095 5100
 Asp His Glu Phe Val Asp Glu Phe Tyr Ala Tyr Leu Arg Lys His Phe
 5105 5110 5115 5120

SEQLIST-20480.TXT

Ser Met Met Ile Leu Ser Asp Asp Ala Val Val Cys Tyr Asn Ser Asn
5125 5130 5135

Tyr Ala Ala Gln Gly Leu Val Ala Ser Ile Lys Asn Phe Lys Ala Val
5140 5145 5150

Leu Tyr Tyr Gln Asn Asn Val Phe Met Ser Glu Ala Lys Cys Trp Thr
5155 5160 5165

Glu Thr Asp Leu Thr Lys Gly Pro His Glu Phe Cys Ser Gln His Thr
5170 5175 5180

Met Leu Val Lys Gln Gly Asp Asp Tyr Val Tyr Leu Pro Tyr Pro Asp
5185 5190 5195 5200

Pro Ser Arg Ile Leu Gly Ala Gly Cys Phe Val Asp Asp Ile Val Lys
5205 5210 5215

Thr Asp Gly Thr Leu Met Ile Glu Arg Phe Val Ser Leu Ala Ile Asp
5220 5225 5230

Ala Tyr Pro Leu Thr Lys His Pro Asn Gln Glu Tyr Ala Asp Val Phe
5235 5240 5245

His Leu Tyr Leu Gln Tyr Ile Arg Lys Leu His Asp Glu Leu Thr Gly
5250 5255 5260

His Met Leu Asp Met Tyr Ser Val Met Leu Thr Asn Asp Asn Thr Ser
5265 5270 5275 5280

Arg Tyr Trp Glu Pro Glu Phe Tyr Glu Ala Met Tyr Thr Pro His Thr
5285 5290 5295

Val Leu Gln Ala Val Gly Ala Cys Val Leu Cys Asn Ser Gln Thr Ser
5300 5305 5310

Leu Arg Cys Gly Ala Cys Ile Arg Arg Pro Phe Leu Cys Cys Lys Cys
5315 5320 5325

Cys Tyr Asp His Val Ile Ser Thr Ser His Lys Leu Val Leu Ser Val
5330 5335 5340

Asn Pro Tyr Val Cys Asn Ala Pro Gly Cys Asp Val Thr Asp Val Thr
5345 5350 5355 5360

Gln Leu Tyr Leu Gly Gly Met Ser Tyr Tyr Cys Lys Ser His Lys Pro
5365 5370 5375

Pro Ile Ser Phe Pro Leu Cys Ala Asn Gly Gln Val Phe Gly Leu Tyr
5380 5385 5390

Lys Asn Thr Cys Val Gly Ser Asp Asn Val Thr Asp Phe Asn Ala Ile
5395 5400 5405

Ala Thr Cys Asp Trp Thr Asn Ala Gly Asp Tyr Ile Leu Ala Asn Thr
5410 5415 5420

Cys Thr Glu Arg Leu Lys Leu Phe Ala Ala Glu Thr Leu Lys Ala Thr
5425 5430 5435 5440

Glu Glu Thr Phe Lys Leu Ser Tyr Gly Ile Ala Thr Val Arg Glu Val
5445 5450 5455

SEQLIST-20480.TXT

Leu Ser Asp Arg Glu Leu His Leu Ser Trp Glu Val Gly Lys Pro Arg
5460 5465 5470

Pro Pro Leu Asn Arg Asn Tyr Val Phe Thr Gly Tyr Arg Val Thr Lys
5475 5480 5485

Asn Ser Lys Val Gln Ile Gly Glu Tyr Thr Phe Glu Lys Gly Asp Tyr
5490 5495 5500

Gly Asp Ala Val Val Tyr Arg Gly Thr Thr Thr Tyr Lys Leu Asn Val
5505 5510 5515 5520

Gly Asp Tyr Phe Val Leu Thr Ser His Thr Val Met Pro Leu Ser Ala
5525 5530 5535

Pro Thr Leu Val Pro Gln Glu His Tyr Val Arg Ile Thr Gly Leu Tyr
5540 5545 5550

Pro Thr Leu Asn Ile Ser Asp Glu Phe Ser Ser Asn Val Ala Asn Tyr
5555 5560 5565

Gln Lys Val Gly Met Gln Lys Tyr Ser Thr Leu Gln Gly Pro Pro Gly
5570 5575 5580

Thr Gly Lys Ser His Phe Ala Ile Gly Leu Ala Leu Tyr Tyr Pro Ser
5585 5590 5595 5600

Ala Arg Ile Val Tyr Thr Ala Cys Ser His Ala Ala Val Asp Ala Leu
5605 5610 5615

Cys Glu Lys Ala Leu Lys Tyr Leu Pro Ile Asp Lys Cys Ser Arg Ile
5620 5625 5630

Ile Pro Ala Arg Ala Arg Val Glu Cys Phe Asp Lys Phe Lys Val Asn
5635 5640 5645

Ser Thr Leu Glu Gln Tyr Val Phe Cys Thr Val Asn Ala Leu Pro Glu
5650 5655 5660

Thr Thr Ala Asp Ile Val Val Phe Asp Glu Ile Ser Met Ala Thr Asn
5665 5670 5675 5680

Tyr Asp Leu Ser Val Val Asn Ala Arg Leu Arg Ala Lys His Tyr Val
5685 5690 5695

Tyr Ile Gly Asp Pro Ala Gln Leu Pro Ala Pro Arg Thr Leu Leu Thr
5700 5705 5710

Lys Gly Thr Leu Glu Pro Glu Tyr Phe Asn Ser Val Cys Arg Leu Met
5715 5720 5725

Lys Thr Ile Gly Pro Asp Met Phe Leu Gly Thr Cys Arg Arg Cys Pro
5730 5735 5740

Ala Glu Ile Val Asp Thr Val Ser Ala Leu Val Tyr Asp Asn Lys Leu
5745 5750 5755 5760

Lys Ala His Lys Asp Lys Ser Ala Gln Cys Phe Lys Met Phe Tyr Lys
5765 5770 5775

Gly Val Ile Thr His Asp Val Ser Ser Ala Ile Asn Arg Pro Gln Ile
5780 5785 5790

SEQLIST-20480.TXT

Gly Val Val Arg Glu Phe Leu Thr Arg Asn Pro Ala Trp Arg Lys Ala
5795 5800 5805

Val Phe Ile Ser Pro Tyr Asn Ser Gln Asn Ala Val Ala Ser Lys Ile
5810 5815 5820

Leu Gly Leu Pro Thr Gln Thr Val Asp Ser Ser Gln Gly Ser Glu Tyr
5825 5830 5835 5840

Asp Tyr Val Ile Phe Thr Gln Thr Thr Glu Thr Ala His Ser Cys Asn
5845 5850 5855

Val Asn Arg Phe Asn Val Ala Ile Thr Arg Ala Lys Ile Gly Ile Leu
5860 5865 5870

Cys Ile Met Ser Asp Arg Asp Leu Tyr Asp Lys Leu Gln Phe Thr Ser
5875 5880 5885

Leu Glu Ile Pro Arg Arg Asn Val Ala Thr Leu Gln Ala Glu Asn Val
5890 5895 5900

Thr Gly Leu Phe Lys Asp Cys Ser Lys Ile Ile Thr Gly Leu His Pro
5905 5910 5915 5920

Thr Gln Ala Pro Thr His Leu Ser Val Asp Ile Lys Phe Lys Thr Glu
5925 5930 5935

Gly Leu Cys Val Asp Ile Pro Gly Ile Pro Lys Asp Met Thr Tyr Arg
5940 5945 5950

Arg Leu Ile Ser Met Met Gly Phe Lys Met Asn Tyr Gln Val Asn Gly
5955 5960 5965

Tyr Pro Asn Met Phe Ile Thr Arg Glu Glu Ala Ile Arg His Val Arg
5970 5975 5980

Ala Trp Ile Gly Phe Asp Val Glu Gly Cys His Ala Thr Arg Asp Ala
5985 5990 5995 6000

Val Gly Thr Asn Leu Pro Leu Gln Leu Gly Phe Ser Thr Gly Val Asn
6005 6010 6015

Leu Val Ala Val Pro Thr Gly Tyr Val Asp Thr Glu Asn Asn Thr Glu
6020 6025 6030

Phe Thr Arg Val Asn Ala Lys Pro Pro Pro Gly Asp Gln Phe Lys His
6035 6040 6045

Leu Ile Pro Leu Met Tyr Lys Gly Leu Pro Trp Asn Val Val Arg Ile
6050 6055 6060

Lys Ile Val Gln Met Leu Ser Asp Thr Leu Lys Gly Leu Ser Asp Arg
6065 6070 6075 6080

Val Val Phe Val Leu Trp Ala His Gly Phe Glu Leu Thr Ser Met Lys
6085 6090 6095

Tyr Phe Val Lys Ile Gly Pro Glu Arg Thr Cys Cys Leu Cys Asp Lys
6100 6105 6110

Arg Ala Thr Cys Phe Ser Thr Ser Ser Asp Thr Tyr Ala Cys Trp Asn
6115 6120 6125

SEQLIST-20480.TXT

His Ser Val Gly Phe Asp Tyr Val Tyr Asn Pro Phe Met Ile Asp Val
6130 6135 6140

Gln Gln Trp Gly Phe Thr Gly Asn Leu Gln Ser Asn His Asp Gln His
6145 6150 6155 6160

Cys Gln Val His Gly Asn Ala His Val Ala Ser Cys Asp Ala Ile Met
6165 6170 6175

Thr Arg Cys Leu Ala Val His Glu Cys Phe Val Lys Arg Val Asp Trp
6180 6185 6190

Ser Val Glu Tyr Pro Ile Ile Gly Asp Glu Leu Arg Val Asn Ser Ala
6195 6200 6205

Cys Arg Lys Val Gln His Met Val Val Lys Ser Ala Leu Leu Ala Asp
6210 6215 6220

Lys Phe Pro Val Leu His Asp Ile Gly Asn Pro Lys Ala Ile Lys Cys
6225 6230 6235 6240

Val Pro Gln Ala Glu Val Glu Trp Lys Phe Tyr Asp Ala Gln Pro Cys
6245 6250 6255

Ser Asp Lys Ala Tyr Lys Ile Glu Glu Leu Phe Tyr Ser Tyr Ala Thr
6260 6265 6270

His His Asp Lys Phe Thr Asp Gly Val Cys Leu Phe Trp Asn Cys Asn
6275 6280 6285

Val Asp Arg Tyr Pro Ala Asn Ala Ile Val Cys Arg Phe Asp Thr Arg
6290 6295 6300

Val Leu Ser Asn Leu Asn Leu Pro Gly Cys Asp Gly Gly Ser Leu Tyr
6305 6310 6315 6320

Val Asn Lys His Ala Phe His Thr Pro Ala Phe Asp Lys Ser Ala Phe
6325 6330 6335

Thr Asn Leu Lys Gln Leu Pro Phe Phe Tyr Tyr Ser Asp Ser Pro Cys
6340 6345 6350

Glu Ser His Gly Lys Gln Val Val Ser Asp Ile Asp Tyr Val Pro Leu
6355 6360 6365

Lys Ser Ala Thr Cys Ile Thr Arg Cys Asn Leu Gly Gly Ala Val Cys
6370 6375 6380

Arg His His Ala Asn Glu Tyr Arg Gln Tyr Leu Asp Ala Tyr Asn Met
6385 6390 6395 6400

Met Ile Ser Ala Gly Phe Ser Leu Trp Ile Tyr Lys Gln Phe Asp Thr
6405 6410 6415

Tyr Asn Leu Trp Asn Thr Phe Thr Arg Leu Gln Ser Leu Glu Asn Val
6420 6425 6430

Ala Tyr Asn Val Val Asn Lys Gly His Phe Asp Gly His Ala Gly Glu
6435 6440 6445

Ala Pro Val Ser Ile Ile Asn Asn Ala Val Tyr Thr Lys Val Asp Gly
6450 6455 6460

SEQLIST-20480.TXT

Ile Asp Val Glu Ile Phe Glu Asn Lys Thr Thr Leu Pro Val Asn Val
6465 6470 6475 6480

Ala Phe Glu Leu Trp Ala Lys Arg Asn Ile Lys Pro Val Pro Glu Ile
6485 6490 6495

Lys Ile Leu Asn Asn Leu Gly Val Asp Ile Ala Ala Asn Thr Val Ile
6500 6505 6510

Trp Asp Tyr Lys Arg Glu Ala Pro Ala His Val Ser Thr Ile Gly Val
6515 6520 6525

Cys Thr Met Thr Asp Ile Ala Lys Lys Pro Thr Glu Ser Ala Cys Ser
6530 6535 6540

Ser Leu Thr Val Leu Phe Asp Gly Arg Val Glu Gly Gln Val Asp Leu
6545 6550 6555 6560

Phe Arg Asn Ala Arg Asn Gly Val Leu Ile Thr Glu Gly Ser Val Lys
6565 6570 6575

Gly Leu Thr Pro Ser Lys Gly Pro Ala Gln Ala Ser Val Asn Gly Val
6580 6585 6590

Thr Leu Ile Gly Glu Ser Val Lys Thr Gln Phe Asn Tyr Phe Lys Lys
6595 6600 6605

Val Asp Gly Ile Ile Gln Gln Leu Pro Glu Thr Tyr Phe Thr Gln Ser
6610 6615 6620

Arg Asp Leu Glu Asp Phe Lys Pro Arg Ser Gln Met Glu Thr Asp Phe
6625 6630 6635 6640

Leu Glu Leu Ala Met Asp Glu Phe Ile Gln Arg Tyr Lys Leu Glu Gly
6645 6650 6655

Tyr Ala Phe Glu His Ile Val Tyr Gly Asp Phe Ser His Gly Gln Leu
6660 6665 6670

Gly Gly Leu His Leu Met Ile Gly Leu Ala Lys Arg Ser Gln Asp Ser
6675 6680 6685

Pro Leu Lys Leu Glu Asp Phe Ile Pro Met Asp Ser Thr Val Lys Asn
6690 6695 6700

Tyr Phe Ile Thr Asp Ala Gln Thr Gly Ser Ser Lys Cys Val Cys Ser
6705 6710 6715 6720

Val Ile Asp Leu Leu Leu Asp Asp Phe Val Glu Ile Ile Lys Ser Gln
6725 6730 6735

Asp Leu Ser Val Ile Ser Lys Val Val Lys Val Thr Ile Asp Tyr Ala
6740 6745 6750

Glu Ile Ser Phe Met Leu Trp Cys Lys Asp Gly His Val Glu Thr Phe
6755 6760 6765

Tyr Pro Lys Leu Gln Ala Ser Arg Ala Trp Gln Pro Gly Val Ala Met
6770 6775 6780

Pro Asn Leu Tyr Lys Met Gln Arg Met Leu Leu Glu Lys Cys Asp Leu
6785 6790 6795 6800

SEQLIST-20480.TXT

Gln Asn Tyr Gly Glu Asn Ala Val Ile Pro Lys Gly Ile Met Met Asn
6805 6810 6815

Val Ala Lys Tyr Thr Gln Leu Cys Gln Tyr Leu Asn Thr Leu Thr Leu
6820 6825 6830

Ala Val Pro Tyr Asn Met Arg Val Ile His Phe Gly Ala Gly Ser Asp
6835 6840 6845

Lys Gly Val Ala Pro Gly Thr Ala Val Leu Arg Gln Trp Leu Pro Thr
6850 6855 6860

Gly Thr Leu Leu Val Asp Ser Asp Leu Asn Asp Phe Val Ser Asp Ala
6865 6870 6875 6880

Tyr Ser Thr Leu Ile Gly Asp Cys Ala Thr Val His Thr Ala Asn Lys
6885 6890 6895

Trp Asp Leu Ile Ile Ser Asp Met Tyr Asp Pro Arg Thr Lys His Val
6900 6905 6910

Thr Lys Glu Asn Asp Ser Lys Glu Gly Phe Phe Thr Tyr Leu Cys Gly
6915 6920 6925

Phe Ile Lys Gln Lys Leu Ala Leu Gly Gly Ser Ile Ala Val Lys Ile
6930 6935 6940

Thr Glu His Ser Trp Asn Ala Asp Leu Tyr Lys Leu Met Gly His Phe
6945 6950 6955 6960

Ser Trp Trp Thr Ala Phe Val Thr Asn Val Asn Ala Ser Ser Ser Glu
6965 6970 6975

Ala Phe Leu Ile Gly Ala Asn Tyr Leu Gly Lys Pro Lys Glu Gln Ile
6980 6985 6990

Asp Gly Tyr Thr Met His Ala Asn Tyr Ile Phe Trp Arg Asn Thr Asn
6995 7000 7005

Pro Ile Gln Leu Ser Ser Tyr Ser Leu Phe Asp Met Ser Lys Phe Pro
7010 7015 7020

Leu Lys Leu Arg Gly Thr Ala Val Met Ser Leu Lys Glu Asn Gln Ile
7025 7030 7035 7040

Asn Asp Met Ile Tyr Ser Leu Leu Glu Lys Gly Arg Leu Ile Ile Arg
7045 7050 7055

Glu Asn Asn Arg Val Val Val Ser Ser Asp Ile Leu Val Asn Asn
7060 7065 7070

<210> 7252
<211> 7072
<212> PRT
<213> SARS coronavirus

<400> 7252
Met Glu Ser Leu Val Leu Gly Val Asn Glu Lys Thr His Val Gln Leu
1 5 10 15

Ser Leu Pro Val Leu Gln Val Arg Asp Val Leu Val Arg Gly Phe Gly
20 25 30

SEQLIST-20480.TXT

Asp Ser Val Glu Glu Ala Leu Ser Glu Ala Arg Glu His Leu Lys Asn
 35 40 45
 Gly Thr Cys Gly Leu Val Glu Leu Glu Lys Gly Val Leu Pro Gln Leu
 50 55 60
 Glu Gln Pro Tyr Val Phe Ile Lys Arg Ser Asp Ala Leu Ser Thr Asn
 65 70 75 80
 His Gly His Lys Val Val Glu Leu Val Ala Glu Met Asp Gly Ile Gln
 85 90 95
 Tyr Gly Arg Ser Gly Ile Thr Leu Gly Val Leu Val Pro His Val Gly
 100 105 110
 Glu Thr Pro Ile Ala Tyr Arg Asn Val Leu Leu Arg Lys Asn Gly Asn
 115 120 125
 Lys Gly Ala Gly Gly His Ser Tyr Gly Ile Asp Leu Lys Ser Tyr Asp
 130 135 140
 Leu Gly Asp Glu Leu Gly Thr Asp Pro Ile Glu Asp Tyr Glu Gln Asn
 145 150 155 160
 Trp Asn Thr Lys His Gly Ser Gly Ala Leu Arg Glu Leu Thr Arg Glu
 165 170 175
 Leu Asn Gly Gly Ala Val Thr Arg Tyr Val Asp Asn Asn Phe Cys Gly
 180 185 190
 Pro Asp Gly Tyr Pro Leu Asp Cys Ile Lys Asp Phe Leu Ala Arg Ala
 195 200 205
 Gly Lys Ser Met Cys Thr Leu Ser Glu Gln Leu Asp Tyr Ile Glu Ser
 210 215 220
 Lys Arg Gly Val Tyr Cys Cys Arg Asp His Glu His Glu Ile Ala Trp
 225 230 235 240
 Phe Thr Glu Arg Ser Asp Lys Ser Tyr Glu His Gln Thr Pro Phe Glu
 245 250 255
 Ile Lys Ser Ala Lys Lys Phe Asp Thr Phe Lys Gly Glu Cys Pro Lys
 260 265 270
 Phe Val Phe Pro Leu Asn Ser Lys Val Lys Val Ile Gln Pro Arg Val
 275 280 285
 Glu Lys Lys Lys Thr Glu Gly Phe Met Gly Arg Ile Arg Ser Val Tyr
 290 295 300
 Pro Val Ala Ser Pro Gln Glu Cys Asn Asn Met His Leu Ser Thr Leu
 305 310 315 320
 Met Lys Cys Asn His Cys Asp Glu Val Ser Trp Gln Thr Cys Asp Phe
 325 330 335
 Leu Lys Ala Thr Cys Glu His Cys Gly Thr Glu Asn Leu Val Ile Glu
 340 345 350
 Gly Pro Thr Thr Cys Gly Tyr Leu Pro Thr Asn Ala Val Val Lys Met
 355 360 365

SEQLIST-20480.TXT

Pro Cys Pro Ala Cys Gln Asp Pro Glu Ile Gly Pro Glu His Ser Val
370 375 380
Ala Asp Tyr His Asn His Ser Asn Ile Glu Thr Arg Leu Arg Lys Gly
385 390 395 400
Gly Arg Thr Arg Cys Phe Gly Gly Cys Val Phe Ala Tyr Val Gly Cys
405 410 415
Tyr Asn Lys Arg Ala Tyr Trp Val Pro Arg Ala Ser Ala Asp Ile Gly
420 425 430
Ser Gly His Thr Gly Ile Thr Gly Asp Asn Val Glu Thr Leu Asn Glu
435 440 445
Asp Leu Leu Glu Ile Leu Ser Arg Glu Arg Val Asn Ile Asn Ile Val
450 455 460
Gly Asp Phe His Leu Asn Glu Glu Val Ala Ile Ile Leu Ala Ser Phe
465 470 475 480
Ser Ala Ser Thr Ser Ala Phe Ile Asp Thr Ile Lys Ser Leu Asp Tyr
485 490 495
Lys Ser Phe Lys Thr Ile Val Glu Ser Cys Gly Asn Tyr Lys Val Thr
500 505 510
Lys Gly Lys Pro Val Lys Gly Ala Trp Asn Ile Gly Gln Gln Arg Ser
515 520 525
Val Leu Thr Pro Leu Cys Gly Phe Pro Ser Gln Ala Ala Gly Val Ile
530 535 540
Arg Ser Ile Phe Ala Arg Thr Leu Asp Ala Ala Asn His Ser Ile Pro
545 550 555 560
Asp Leu Gln Arg Ala Ala Val Thr Ile Leu Asp Gly Ile Ser Glu Gln
565 570 575
Ser Leu Arg Leu Val Asp Ala Met Val Tyr Thr Ser Asp Leu Leu Thr
580 585 590
Asn Ser Val Ile Ile Met Ala Tyr Val Thr Gly Gly Leu Val Gln Gln
595 600 605
Thr Ser Gln Trp Leu Ser Asn Leu Leu Gly Thr Thr Val Glu Lys Leu
610 615 620
Arg Pro Ile Phe Glu Trp Ile Glu Ala Lys Leu Ser Ala Gly Val Glu
625 630 635 640
Phe Leu Lys Asp Ala Trp Glu Ile Leu Lys Phe Leu Ile Thr Gly Val
645 650 655
Phe Asp Ile Val Lys Gly Gln Ile Gln Val Ala Ser Asp Asn Ile Lys
660 665 670
Asp Cys Val Lys Cys Phe Ile Asp Val Val Asn Lys Ala Leu Glu Met
675 680 685
Cys Ile Asp Gln Val Thr Ile Ala Gly Ala Lys Leu Arg Ser Leu Asn
690 695 700

SEQLIST-20480.TXT

Leu Gly Glu Val Phe Ile Ala Gln Ser Lys Gly Leu Tyr Arg Gln Cys
 705 710 715 720
 Ile Arg Gly Lys Glu Gln Leu Gln Leu Leu Met Pro Leu Lys Ala Pro
 725 730 735
 Lys Glu Val Thr Phe Leu Glu Gly Asp Ser His Asp Thr Val Leu Thr
 740 745 750
 Ser Glu Glu Val Val Leu Lys Asn Gly Glu Leu Glu Ala Leu Glu Thr
 755 760 765
 Pro Val Asp Ser Phe Thr Asn Gly Ala Ile Val Gly Thr Pro Val Cys
 770 775 780
 Val Asn Gly Leu Met Leu Leu Glu Ile Lys Asp Lys Glu Gln Tyr Cys
 785 790 795 800
 Ala Leu Ser Pro Gly Leu Leu Ala Thr Asn Asn Val Phe Arg Leu Lys
 805 810 815
 Gly Gly Ala Pro Ile Lys Gly Val Thr Phe Gly Glu Asp Thr Val Trp
 820 825 830
 Glu Val Gln Gly Tyr Lys Asn Val Arg Ile Thr Phe Glu Leu Asp Glu
 835 840 845
 Arg Val Asp Lys Val Leu Asn Glu Lys Cys Ser Val Tyr Thr Val Glu
 850 855 860
 Ser Gly Thr Glu Val Thr Glu Phe Ala Cys Val Val Ala Glu Ala Val
 865 870 875 880
 Val Lys Thr Leu Gln Pro Val Ser Asp Leu Leu Thr Asn Met Gly Ile
 885 890 895
 Asp Leu Asp Glu Trp Ser Val Ala Thr Phe Tyr Leu Phe Asp Asp Ala
 900 905 910
 Gly Glu Glu Asn Phe Ser Ser Arg Met Tyr Cys Ser Phe Tyr Pro Pro
 915 920 925
 Asp Glu Glu Glu Glu Asp Asp Ala Glu Cys Glu Glu Glu Glu Ile Asp
 930 935 940
 Glu Thr Cys Glu His Glu Tyr Gly Thr Glu Asp Asp Tyr Gln Gly Leu
 945 950 955 960
 Pro Leu Glu Phe Gly Ala Ser Ala Glu Thr Val Arg Val Glu Glu Glu
 965 970 975
 Glu Glu Glu Asp Trp Leu Asp Asp Thr Thr Glu Gln Ser Glu Ile Glu
 980 985 990
 Pro Glu Pro Glu Pro Thr Pro Glu Glu Pro Val Asn Gln Phe Thr Gly
 995 1000 1005
 Tyr Leu Lys Leu Thr Asp Asn Val Ala Ile Lys Cys Val Asp Ile Val
 1010 1015 1020
 Lys Glu Ala Gln Ser Ala Asn Pro Met Val Ile Val Asn Ala Ala Asn
 1025 1030 1035 1040

SEQLIST-20480.TXT

Ile His Leu Lys His Gly Gly Gly Val Ala Gly Ala Leu Asn Lys Ala
1045 1050 1055

Thr Asn Gly Ala Met Gln Lys Glu Ser Asp Asp Tyr Ile Lys Leu Asn
1060 1065 1070

Gly Pro Leu Thr Val Gly Gly Ser Cys Leu Leu Ser Gly His Asn Leu
1075 1080 1085

Ala Lys Lys Cys Leu His Val Val Gly Pro Asn Leu Asn Ala Gly Glu
1090 1095 1100

Asp Ile Gln Leu Leu Lys Ala Ala Tyr Glu Asn Phe Asn Ser Gln Asp
1105 1110 1115 1120

Ile Leu Leu Ala Pro Leu Leu Ser Ala Gly Ile Phe Gly Ala Lys Pro
1125 1130 1135

Leu Gln Ser Leu Gln Val Cys Val Gln Thr Val Arg Thr Gln Val Tyr
1140 1145 1150

Ile Ala Val Asn Asp Lys Ala Leu Tyr Glu Gln Val Val Met Asp Tyr
1155 1160 1165

Leu Asp Asn Leu Lys Pro Arg Val Glu Ala Pro Lys Gln Glu Glu Pro
1170 1175 1180

Pro Asn Thr Glu Asp Ser Lys Thr Glu Glu Lys Ser Val Val Gln Lys
1185 1190 1195 1200

Pro Val Asp Val Lys Pro Lys Ile Lys Ala Cys Ile Asp Glu Val Thr
1205 1210 1215

Thr Thr Leu Glu Glu Thr Lys Phe Leu Thr Asn Lys Leu Leu Leu Phe
1220 1225 1230

Ala Asp Ile Asn Gly Lys Leu Tyr His Asp Ser Gln Asn Met Leu Arg
1235 1240 1245

Gly Glu Asp Met Ser Phe Leu Glu Lys Asp Ala Pro Tyr Met Val Gly
1250 1255 1260

Asp Val Ile Thr Ser Gly Asp Ile Thr Cys Val Val Ile Pro Ser Lys
1265 1270 1275 1280

Lys Ala Gly Gly Thr Thr Glu Met Leu Ser Arg Ala Leu Lys Lys Val
1285 1290 1295

Pro Val Asp Glu Tyr Ile Thr Thr Tyr Pro Gly Gln Gly Cys Ala Gly
1300 1305 1310

Tyr Thr Leu Glu Glu Ala Lys Thr Ala Leu Lys Lys Cys Lys Ser Ala
1315 1320 1325

Phe Tyr Val Leu Pro Ser Glu Ala Pro Asn Ala Lys Glu Glu Ile Leu
1330 1335 1340

Gly Thr Val Ser Trp Asn Leu Arg Glu Met Leu Ala His Ala Glu Glu
1345 1350 1355 1360

Thr Arg Lys Leu Met Pro Ile Cys Met Asp Val Arg Ala Ile Met Ala
1365 1370 1375

SEQLIST-20480.TXT

Thr Ile Gln Arg Lys Tyr Lys Gly Ile Lys Ile Gln Glu Gly Ile Val
1380 1385 1390

Asp Tyr Gly Val Arg Phe Phe Phe Tyr Thr Ser Lys Glu Pro Val Ala
1395 1400 1405

Ser Ile Ile Thr Lys Leu Asn Ser Leu Asn Glu Pro Leu Val Thr Met
1410 1415 1420

Pro Ile Gly Tyr Val Thr His Gly Phe Asn Leu Glu Glu Ala Ala Arg
1425 1430 1435 1440

Cys Met Arg Ser Leu Lys Ala Pro Ala Val Val Ser Val Ser Ser Pro
1445 1450 1455

Asp Ala Val Thr Thr Tyr Asn Gly Tyr Leu Thr Ser Ser Ser Lys Thr
1460 1465 1470

Ser Glu Glu His Phe Val Glu Thr Val Ser Leu Ala Gly Ser Tyr Arg
1475 1480 1485

Asp Trp Ser Tyr Ser Gly Gln Arg Thr Glu Leu Gly Val Glu Phe Leu
1490 1495 1500

Lys Arg Gly Asp Lys Ile Val Tyr His Thr Leu Glu Ser Pro Val Glu
1505 1510 1515 1520

Phe His Leu Asp Gly Glu Val Leu Ser Leu Asp Lys Leu Lys Ser Leu
1525 1530 1535

Leu Ser Leu Arg Glu Val Lys Thr Ile Lys Val Phe Thr Thr Val Asp
1540 1545 1550

Asn Thr Asn Leu His Thr Gln Leu Val Asp Met Ser Met Thr Tyr Gly
1555 1560 1565

Gln Gln Phe Gly Pro Thr Tyr Leu Asp Gly Ala Asp Val Thr Lys Ile
1570 1575 1580

Lys Pro His Val Asn His Glu Gly Lys Thr Phe Phe Val Leu Pro Ser
1585 1590 1595 1600

Asp Asp Thr Leu Arg Ser Glu Ala Phe Glu Tyr Tyr His Thr Leu Asp
1605 1610 1615

Glu Ser Phe Leu Gly Arg Tyr Met Ser Ala Leu Asn His Thr Lys Lys
1620 1625 1630

Trp Lys Phe Pro Gln Val Gly Gly Leu Thr Ser Ile Lys Trp Ala Asp
1635 1640 1645

Asn Asn Cys Tyr Leu Ser Ser Val Leu Leu Ala Leu Gln Gln Leu Glu
1650 1655 1660

Val Lys Phe Asn Ala Pro Ala Leu Gln Glu Ala Tyr Tyr Arg Ala Arg
1665 1670 1675 1680

Ala Gly Asp Ala Ala Asn Phe Cys Ala Leu Ile Leu Ala Tyr Ser Asn
1685 1690 1695

Lys Thr Val Gly Glu Leu Gly Asp Val Arg Glu Thr Met Thr His Leu
1700 1705 1710

SEQLIST-20480.TXT

Leu Gln His Ala Asn Leu Glu Ser Ala Lys Arg Val Leu Asn Val Val
1715 1720 1725

Cys Lys His Cys Gly Gln Lys Thr Thr Thr Leu Thr Gly Val Glu Ala
1730 1735 1740

Val Met Tyr Met Gly Thr Leu Ser Tyr Asp Asn Leu Lys Thr Gly Val
1745 1750 1755 1760

Ser Ile Pro Cys Val Cys Gly Arg Asp Ala Thr Gln Tyr Leu Val Gln
1765 1770 1775

Gln Glu Ser Ser Phe Val Met Met Ser Ala Pro Pro Ala Glu Tyr Lys
1780 1785 1790

Leu Gln Gln Gly Thr Phe Leu Cys Ala Asn Glu Tyr Thr Gly Asn Tyr
1795 1800 1805

Gln Cys Gly His Tyr Thr His Ile Thr Ala Lys Glu Thr Leu Tyr Arg
1810 1815 1820

Ile Asp Gly Ala His Leu Thr Lys Met Ser Glu Tyr Lys Gly Pro Val
1825 1830 1835 1840

Thr Asp Val Phe Tyr Lys Glu Thr Ser Tyr Thr Thr Thr Ile Lys Pro
1845 1850 1855

Val Ser Tyr Lys Leu Asp Gly Val Thr Tyr Thr Glu Ile Glu Pro Lys
1860 1865 1870

Leu Asp Gly Tyr Tyr Lys Lys Asp Asn Ala Tyr Tyr Thr Glu Gln Pro
1875 1880 1885

Ile Asp Leu Val Pro Thr Gln Pro Leu Pro Asn Ala Ser Phe Asp Asn
1890 1895 1900

Phe Lys Leu Thr Cys Ser Asn Thr Lys Phe Ala Asp Asp Leu Asn Gln
1905 1910 1915 1920

Met Thr Gly Phe Thr Lys Pro Ala Ser Arg Glu Leu Ser Val Thr Phe
1925 1930 1935

Phe Pro Asp Leu Asn Gly Asp Val Val Ala Ile Asp Tyr Arg His Tyr
1940 1945 1950

Ser Ala Ser Phe Lys Lys Gly Ala Lys Leu Leu His Lys Pro Ile Val
1955 1960 1965

Trp His Ile Asn Gln Ala Thr Thr Lys Thr Thr Phe Lys Pro Asn Thr
1970 1975 1980

Trp Cys Leu Arg Cys Leu Trp Ser Thr Lys Pro Val Asp Thr Ser Asn
1985 1990 1995 2000

Ser Phe Glu Val Leu Ala Val Glu Asp Thr Gln Gly Met Asp Asn Leu
2005 2010 2015

Ala Cys Glu Ser Gln Gln Pro Thr Ser Glu Glu Val Val Glu Asn Pro
2020 2025 2030

Thr Ile Gln Lys Glu Val Ile Glu Cys Asp Val Lys Thr Thr Glu Val
2035 2040 2045

SEQLIST-20480.TXT

Val Gly Asn Val Ile Leu Lys Pro Ser Asp Glu Gly Val Lys Val Thr
2050 2055 2060

Gln Glu Leu Gly His Glu Asp Leu Met Ala Ala Tyr Val Glu Asn Thr
2065 2070 2075 2080

Ser Ile Thr Ile Lys Lys Pro Asn Glu Leu Ser Leu Ala Leu Gly Leu
2085 2090 2095

Lys Thr Ile Ala Thr His Gly Ile Ala Ala Ile Asn Ser Val Pro Trp
2100 2105 2110

Ser Lys Ile Leu Ala Tyr Val Lys Pro Phe Leu Gly Gln Ala Ala Ile
2115 2120 2125

Thr Thr Ser Asn Cys Ala Lys Arg Leu Ala Gln Arg Val Phe Asn Asn
2130 2135 2140

Tyr Met Pro Tyr Val Phe Thr Leu Leu Phe Gln Leu Cys Thr Phe Thr
2145 2150 2155 2160

Lys Ser Thr Asn Ser Arg Ile Arg Ala Ser Leu Pro Thr Thr Ile Ala
2165 2170 2175

Lys Asn Ser Val Lys Ser Val Ala Lys Leu Cys Leu Asp Ala Gly Ile
2180 2185 2190

Asn Tyr Val Lys Ser Pro Lys Phe Ser Lys Leu Phe Thr Ile Ala Met
2195 2200 2205

Trp Leu Leu Leu Leu Ser Ile Cys Leu Gly Ser Leu Ile Cys Val Thr
2210 2215 2220

Ala Ala Phe Gly Val Leu Leu Ser Asn Phe Gly Ala Pro Ser Tyr Cys
2225 2230 2235 2240

Asn Gly Val Arg Glu Leu Tyr Leu Asn Ser Ser Asn Val Thr Thr Met
2245 2250 2255

Asp Phe Cys Glu Gly Ser Phe Pro Cys Ser Ile Cys Leu Ser Gly Leu
2260 2265 2270

Asp Ser Leu Asp Ser Tyr Pro Ala Leu Glu Thr Ile Gln Val Thr Ile
2275 2280 2285

Ser Ser Tyr Lys Leu Asp Leu Thr Ile Leu Gly Leu Ala Ala Glu Trp
2290 2295 2300

Val Leu Ala Tyr Met Leu Phe Thr Lys Phe Phe Tyr Leu Leu Gly Leu
2305 2310 2315 2320

Ser Ala Ile Met Gln Val Phe Phe Gly Tyr Phe Ala Ser His Phe Ile
2325 2330 2335

Ser Asn Ser Trp Leu Met Trp Phe Ile Ile Ser Ile Val Gln Met Ala
2340 2345 2350

Pro Val Ser Ala Met Val Arg Met Tyr Ile Phe Phe Ala Ser Phe Tyr
2355 2360 2365

Tyr Ile Trp Lys Ser Tyr Val His Ile Met Asp Gly Cys Thr Ser Ser
2370 2375 2380

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Thr Cys Met Met Cys Tyr Lys Arg Asn Arg Ala Thr Arg Val Glu Cys
 2385 2390 2395 2400
 Thr Thr Ile Val Asn Gly Met Lys Arg Ser Phe Tyr Val Tyr Ala Asn
 2405 2410 2415
 Gly Gly Arg Gly Phe Cys Lys Thr His Asn Trp Asn Cys Leu Asn Cys
 2420 2425 2430
 Asp Thr Phe Cys Thr Gly Ser Thr Phe Ile Ser Asp Glu Val Ala Arg
 2435 2440 2445
 Asp Leu Ser Leu Gln Phe Lys Arg Pro Ile Asn Pro Thr Asp Gln Ser
 2450 2455 2460
 Ser Tyr Ile Val Asp Ser Val Ala Val Lys Asn Gly Ala Leu His Leu
 2465 2470 2475 2480
 Tyr Phe Asp Lys Ala Gly Gln Lys Thr Tyr Glu Arg His Pro Leu Ser
 2485 2490 2495
 His Phe Val Asn Leu Asp Asn Leu Arg Ala Asn Asn Thr Lys Gly Ser
 2500 2505 2510
 Leu Pro Ile Asn Val Ile Val Phe Asp Gly Lys Ser Lys Cys Asp Glu
 2515 2520 2525
 Ser Ala Ser Lys Ser Ala Ser Val Tyr Tyr Ser Gln Leu Met Cys Gln
 2530 2535 2540
 Pro Ile Leu Leu Leu Asp Gln Ala Leu Val Ser Asp Val Gly Asp Ser
 2545 2550 2555 2560
 Thr Glu Val Ser Val Lys Met Phe Asp Ala Tyr Val Asp Thr Phe Ser
 2565 2570 2575
 Ala Thr Phe Ser Val Pro Met Glu Lys Leu Lys Ala Leu Val Ala Thr
 2580 2585 2590
 Ala His Ser Glu Leu Ala Lys Gly Val Ala Leu Asp Gly Val Leu Ser
 2595 2600 2605
 Thr Phe Val Ser Ala Ala Arg Gln Gly Val Val Asp Thr Asp Val Asp
 2610 2615 2620
 Thr Lys Asp Val Ile Glu Cys Leu Lys Leu Ser His His Ser Asp Leu
 2625 2630 2635 2640
 Glu Val Thr Gly Asp Ser Cys Asn Asn Phe Met Leu Thr Tyr Asn Lys
 2645 2650 2655
 Val Glu Asn Met Thr Pro Arg Asp Leu Gly Ala Cys Ile Asp Cys Asn
 2660 2665 2670
 Ala Arg His Ile Asn Ala Gln Val Ala Lys Ser His Asn Val Ser Leu
 2675 2680 2685
 Ile Trp Asn Val Lys Asp Tyr Met Ser Leu Ser Glu Gln Leu Arg Lys
 2690 2695 2700
 Gln Ile Arg Ser Ala Ala Lys Lys Asn Asn Ile Pro Phe Arg Leu Thr
 2705 2710 2715 2720

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Cys Ala Thr Thr Arg Gln Val Val Asn Val Ile Thr Thr Lys Ile Ser
 2725 2730 2735
 Leu Lys Gly Gly Lys Ile Val Ser Thr Cys Phe Lys Leu Met Leu Lys
 2740 2745 2750
 Ala Thr Leu Leu Cys Val Leu Ala Ala Leu Val Cys Tyr Ile Val Met
 2755 2760 2765
 Pro Val His Thr Leu Ser Ile His Asp Gly Tyr Thr Asn Glu Ile Ile
 2770 2775 2780
 Gly Tyr Lys Ala Ile Gln Asp Gly Val Thr Arg Asp Ile Ile Ser Thr
 2785 2790 2795 2800
 Asp Asp Cys Phe Ala Asn Lys His Ala Gly Phe Asp Ala Trp Phe Ser
 2805 2810 2815
 Gln Arg Gly Gly Ser Tyr Lys Asn Asp Lys Ser Cys Pro Val Val Ala
 2820 2825 2830
 Ala Ile Ile Thr Arg Glu Ile Gly Phe Ile Val Pro Gly Leu Pro Gly
 2835 2840 2845
 Thr Val Leu Arg Ala Ile Asn Gly Asp Phe Leu His Phe Leu Pro Arg
 2850 2855 2860
 Val Phe Ser Ala Val Gly Asn Ile Cys Tyr Thr Pro Ser Lys Leu Ile
 2865 2870 2875 2880
 Glu Tyr Ser Asp Phe Ala Thr Ser Ala Cys Val Leu Ala Ala Glu Cys
 2885 2890 2895
 Thr Ile Phe Lys Asp Ala Met Gly Lys Pro Val Pro Tyr Cys Tyr Asp
 2900 2905 2910
 Thr Asn Leu Leu Glu Gly Ser Ile Ser Tyr Ser Glu Leu Arg Pro Asp
 2915 2920 2925
 Thr Arg Tyr Val Leu Met Asp Gly Ser Ile Ile Gln Phe Pro Asn Thr
 2930 2935 2940
 Tyr Leu Glu Gly Ser Val Arg Val Val Thr Thr Phe Asp Ala Glu Tyr
 2945 2950 2955 2960
 Cys Arg His Gly Thr Cys Glu Arg Ser Glu Val Gly Ile Cys Leu Ser
 2965 2970 2975
 Thr Ser Gly Arg Trp Val Leu Asn Asn Glu His Tyr Arg Ala Leu Ser
 2980 2985 2990
 Gly Val Phe Cys Gly Val Asp Ala Met Asn Leu Ile Ala Asn Ile Phe
 2995 3000 3005
 Thr Pro Leu Val Gln Pro Val Gly Ala Leu Asp Val Ser Ala Ser Val
 3010 3015 3020
 Val Ala Gly Gly Ile Ile Ala Ile Leu Val Thr Cys Ala Ala Tyr Tyr
 3025 3030 3035 3040
 Phe Met Lys Phe Arg Arg Val Phe Gly Glu Tyr Asn His Val Val Ala
 3045 3050 3055

SEQLIST-20480.TXT

Ala Asn Ala Leu Leu Phe Leu Met Ser Phe Thr Ile Leu Cys Leu Val
3060 3065 3070

Pro Ala Tyr Ser Phe Leu Pro Gly Val Tyr Ser Val Phe Tyr Leu Tyr
3075 3080 3085

Leu Thr Phe Tyr Phe Thr Asn Asp Val Ser Phe Leu Ala His Leu Gln
3090 3095 3100

Trp Phe Ala Met Phe Ser Pro Ile Val Pro Phe Trp Ile Thr Ala Ile
3105 3110 3115 3120

Tyr Val Phe Cys Ile Ser Leu Lys His Cys His Trp Phe Phe Asn Asn
3125 3130 3135

Tyr Leu Arg Lys Arg Val Met Phe Asn Gly Val Thr Phe Ser Thr Phe
3140 3145 3150

Glu Glu Ala Ala Leu Cys Thr Phe Leu Leu Asn Lys Glu Met Tyr Leu
3155 3160 3165

Lys Leu Arg Ser Glu Thr Leu Leu Pro Leu Thr Gln Tyr Asn Arg Tyr
3170 3175 3180

Leu Ala Leu Tyr Asn Lys Tyr Lys Tyr Phe Ser Gly Ala Leu Asp Thr
3185 3190 3195 3200

Thr Ser Tyr Arg Glu Ala Ala Cys Cys His Leu Ala Lys Ala Leu Asn
3205 3210 3215

Asp Phe Ser Asn Ser Gly Ala Asp Val Leu Tyr Gln Pro Pro Gln Thr
3220 3225 3230

Ser Ile Thr Ser Ala Val Leu Gln Ser Gly Phe Arg Lys Met Ala Phe
3235 3240 3245

Pro Ser Gly Lys Val Glu Gly Cys Met Val Gln Val Thr Cys Gly Thr
3250 3255 3260

Thr Thr Leu Asn Gly Leu Trp Leu Asp Asp Thr Val Tyr Cys Pro Arg
3265 3270 3275 3280

His Val Ile Cys Thr Ala Glu Asp Met Leu Asn Pro Asn Tyr Glu Asp
3285 3290 3295

Leu Leu Ile Arg Lys Ser Asn His Ser Phe Leu Val Gln Ala Gly Asn
3300 3305 3310

Val Gln Leu Arg Val Ile Gly His Ser Met Gln Asn Cys Leu Leu Arg
3315 3320 3325

Leu Lys Val Asp Thr Ser Asn Pro Lys Thr Pro Lys Tyr Lys Phe Val
3330 3335 3340

Arg Ile Gln Pro Gly Gln Thr Phe Ser Val Leu Ala Cys Tyr Asn Gly
3345 3350 3355 3360

Ser Pro Ser Gly Val Tyr Gln Cys Ala Met Arg Pro Asn His Thr Ile
3365 3370 3375

Lys Gly Ser Phe Leu Asn Gly Ser Cys Gly Ser Val Gly Phe Asn Ile
3380 3385 3390

SEQLIST-20480.TXT

Asp Tyr Asp Cys Val Ser Phe Cys Tyr Met His His Met Glu Leu Pro
 3395 3400 3405
 Thr Gly Val His Ala Gly Thr Asp Leu Glu Gly Lys Phe Tyr Gly Pro
 3410 3415 3420
 Phe Val Asp Arg Gln Thr Ala Gln Ala Ala Gly Thr Asp Thr Thr Ile
 3425 3430 3435 3440
 Thr Leu Asn Val Leu Ala Trp Leu Tyr Ala Ala Val Ile Asn Gly Asp
 3445 3450 3455
 Arg Trp Phe Leu Asn Arg Phe Thr Thr Thr Leu Asn Asp Phe Asn Leu
 3460 3465 3470
 Val Ala Met Lys Tyr Asn Tyr Glu Pro Leu Thr Gln Asp His Val Asp
 3475 3480 3485
 Ile Leu Gly Pro Leu Ser Ala Gln Thr Gly Ile Ala Val Leu Asp Met
 3490 3495 3500
 Cys Ala Ala Leu Lys Glu Leu Leu Gln Asn Gly Met Asn Gly Arg Thr
 3505 3510 3515 3520
 Ile Leu Gly Ser Thr Ile Leu Glu Asp Glu Phe Thr Pro Phe Asp Val
 3525 3530 3535
 Val Arg Gln Cys Ser Gly Val Thr Phe Gln Gly Lys Phe Lys Lys Ile
 3540 3545 3550
 Val Lys Gly Thr His His Trp Met Leu Leu Thr Phe Leu Thr Ser Leu
 3555 3560 3565
 Leu Ile Leu Val Gln Ser Thr Gln Trp Ser Leu Phe Phe Phe Val Tyr
 3570 3575 3580
 Glu Asn Ala Phe Leu Pro Phe Thr Leu Gly Ile Met Ala Ile Ala Ala
 3585 3590 3595 3600
 Cys Ala Met Leu Leu Val Lys His Lys His Ala Phe Leu Cys Leu Phe
 3605 3610 3615
 Leu Leu Pro Ser Leu Ala Thr Val Ala Tyr Phe Asn Met Val Tyr Met
 3620 3625 3630
 Pro Ala Ser Trp Val Met Arg Ile Met Thr Trp Leu Glu Leu Ala Asp
 3635 3640 3645
 Thr Ser Leu Ser Gly Tyr Arg Leu Lys Asp Cys Val Met Tyr Ala Ser
 3650 3655 3660
 Ala Leu Val Leu Leu Ile Leu Met Thr Ala Arg Thr Val Tyr Asp Asp
 3665 3670 3675 3680
 Ala Ala Arg Arg Val Trp Thr Leu Met Asn Val Ile Thr Leu Val Tyr
 3685 3690 3695
 Lys Val Tyr Tyr Gly Asn Ala Leu Asp Gln Ala Ile Ser Met Trp Ala
 3700 3705 3710
 Leu Val Ile Ser Val Thr Ser Asn Tyr Ser Gly Val Val Thr Thr Ile
 3715 3720 3725

SEQLIST-20480.TXT

Met Phe Leu Ala Arg Ala Ile Val Phe Val Cys Val Glu Tyr Tyr Pro
3730 3735 3740

Leu Leu Phe Ile Thr Gly Asn Thr Leu Gln Cys Ile Met Leu Val Tyr
3745 3750 3755 3760

Cys Phe Leu Gly Tyr Cys Cys Cys Cys Tyr Phe Gly Leu Phe Cys Leu
3765 3770 3775

Leu Asn Arg Tyr Phe Arg Leu Thr Leu Gly Val Tyr Asp Tyr Leu Val
3780 3785 3790

Ser Thr Gln Glu Phe Arg Tyr Met Asn Ser Gln Gly Leu Leu Pro Pro
3795 3800 3805

Lys Ser Ser Ile Asp Ala Phe Lys Leu Asn Ile Lys Leu Leu Gly Ile
3810 3815 3820

Gly Gly Lys Pro Cys Ile Lys Val Ala Thr Val Gln Ser Lys Met Ser
3825 3830 3835 3840

Asp Val Lys Cys Thr Ser Val Val Leu Leu Ser Val Leu Gln Gln Leu
3845 3850 3855

Arg Val Glu Ser Ser Ser Lys Leu Trp Ala Gln Cys Val Gln Leu His
3860 3865 3870

Asn Asp Ile Leu Leu Ala Lys Asp Thr Thr Glu Ala Phe Glu Lys Met
3875 3880 3885

Val Ser Leu Leu Ser Val Leu Leu Ser Met Gln Gly Ala Val Asp Ile
3890 3895 3900

Asn Arg Leu Cys Glu Glu Met Leu Asp Asn Arg Ala Thr Leu Gln Ala
3905 3910 3915 3920

Ile Ala Ser Glu Phe Ser Ser Leu Pro Ser Tyr Ala Ala Tyr Ala Thr
3925 3930 3935

Ala Gln Glu Ala Tyr Glu Gln Ala Val Ala Asn Gly Asp Ser Glu Val
3940 3945 3950

Val Leu Lys Lys Leu Lys Lys Ser Leu Asn Val Ala Lys Ser Glu Phe
3955 3960 3965

Asp Arg Asp Ala Ala Met Gln Arg Lys Leu Glu Lys Met Ala Asp Gln
3970 3975 3980

Ala Met Thr Gln Met Tyr Lys Gln Ala Arg Ser Glu Asp Lys Arg Ala
3985 3990 3995 4000

Lys Val Thr Ser Ala Met Gln Thr Met Leu Phe Thr Met Leu Arg Lys
4005 4010 4015

Leu Asp Asn Asp Ala Leu Asn Asn Ile Ile Asn Asn Ala Arg Asp Gly
4020 4025 4030

Cys Val Pro Leu Asn Ile Ile Pro Leu Thr Thr Ala Ala Lys Leu Met
4035 4040 4045

Val Val Val Pro Asp Tyr Gly Thr Tyr Lys Asn Thr Cys Asp Gly Asn
4050 4055 4060

SEQLIST-20480.TXT

Thr Phe Thr Tyr Ala Ser Ala Leu Trp Glu Ile Gln Gln Val Val Asp
4065 4070 4075 4080

Ala Asp Ser Lys Ile Val Gln Leu Ser Glu Ile Asn Met Asp Asn Ser
4085 4090 4095

Pro Asn Leu Ala Trp Pro Leu Ile Val Thr Ala Leu Arg Ala Asn Ser
4100 4105 4110

Ala Val Lys Leu Gln Asn Asn Glu Leu Ser Pro Val Ala Leu Arg Gln
4115 4120 4125

Met Ser Cys Ala Ala Gly Thr Thr Gln Thr Ala Cys Thr Asp Asp Asn
4130 4135 4140

Ala Leu Ala Tyr Tyr Asn Asn Ser Lys Gly Gly Arg Phe Val Leu Ala
4145 4150 4155 4160

Leu Leu Ser Asp His Gln Asp Leu Lys Trp Ala Arg Phe Pro Lys Ser
4165 4170 4175

Asp Gly Thr Gly Thr Ile Tyr Thr Glu Leu Glu Pro Pro Cys Arg Phe
4180 4185 4190

Val Thr Asp Thr Pro Lys Gly Pro Lys Val Lys Tyr Leu Tyr Phe Ile
4195 4200 4205

Lys Gly Leu Asn Asn Leu Asn Arg Gly Met Val Leu Gly Ser Leu Ala
4210 4215 4220

Ala Thr Val Arg Leu Gln Ala Gly Asn Ala Thr Glu Val Pro Ala Asn
4225 4230 4235 4240

Ser Thr Val Leu Ser Phe Cys Ala Phe Ala Val Asp Pro Ala Lys Ala
4245 4250 4255

Tyr Lys Asp Tyr Leu Ala Ser Gly Gly Gln Pro Ile Thr Asn Cys Val
4260 4265 4270

Lys Met Leu Cys Thr His Thr Gly Thr Gly Gln Ala Ile Thr Val Thr
4275 4280 4285

Pro Glu Ala Asn Met Asp Gln Glu Ser Phe Gly Gly Ala Ser Cys Cys
4290 4295 4300

Leu Tyr Cys Arg Cys His Ile Asp His Pro Asn Pro Lys Gly Phe Cys
4305 4310 4315 4320

Asp Leu Lys Gly Lys Tyr Val Gln Ile Pro Thr Thr Cys Ala Asn Asp
4325 4330 4335

Pro Val Gly Phe Thr Leu Arg Asn Thr Val Cys Thr Val Cys Gly Met
4340 4345 4350

Trp Lys Gly Tyr Gly Cys Ser Cys Asp Gln Leu Arg Glu Pro Leu Met
4355 4360 4365

Gln Ser Ala Asp Ala Ser Thr Phe Leu Asn Arg Val Gly Val Ser Ala
4370 4375 4380

Ala Arg Leu Thr Pro Cys Gly Thr Gly Thr Ser Thr Asp Val Val Tyr
4385 4390 4395 4400

SEQLIST-20480.TXT

Arg Ala Phe Asp Ile Tyr Asn Glu Lys Val Ala Gly Phe Ala Lys Phe
4405 4410 4415

Leu Lys Thr Asn Cys Cys Arg Phe Gln Glu Lys Asp Glu Glu Gly Asn
4420 4425 4430

Leu Leu Asp Ser Tyr Phe Val Val Lys Arg His Thr Met Ser Asn Tyr
4435 4440 4445

Gln His Glu Glu Thr Ile Tyr Asn Leu Val Lys Asp Cys Pro Ala Val
4450 4455 4460

Ala Val His Asp Phe Phe Lys Phe Arg Val Asp Gly Asp Met Val Pro
4465 4470 4475 4480

His Ile Ser Arg Gln Arg Leu Thr Lys Tyr Thr Met Ala Asp Leu Val
4485 4490 4495

Tyr Ala Leu Arg His Phe Asp Glu Gly Asn Cys Asp Thr Leu Lys Glu
4500 4505 4510

Ile Leu Val Thr Tyr Asn Cys Cys Asp Asp Asp Tyr Phe Asn Lys Lys
4515 4520 4525

Asp Trp Tyr Asp Phe Val Glu Asn Pro Asp Ile Leu Arg Val Tyr Ala
4530 4535 4540

Asn Leu Gly Glu Arg Val Arg Gln Ser Leu Leu Lys Thr Val Gln Phe
4545 4550 4555 4560

Cys Asp Ala Met Arg Asp Ala Gly Ile Val Gly Val Leu Thr Leu Asp
4565 4570 4575

Asn Gln Asp Leu Asn Gly Asn Trp Tyr Asp Phe Gly Asp Phe Val Gln
4580 4585 4590

Val Ala Pro Gly Cys Gly Val Pro Ile Val Asp Ser Tyr Tyr Ser Leu
4595 4600 4605

Leu Met Pro Ile Leu Thr Leu Thr Arg Ala Leu Ala Ala Glu Ser His
4610 4615 4620

Met Asp Ala Asp Leu Ala Lys Pro Leu Ile Lys Trp Asp Leu Leu Lys
4625 4630 4635 4640

Tyr Asp Phe Thr Glu Glu Arg Leu Cys Leu Phe Asp Arg Tyr Phe Lys
4645 4650 4655

Tyr Trp Asp Gln Thr Tyr His Pro Asn Cys Ile Asn Cys Leu Asp Asp
4660 4665 4670

Arg Cys Ile Leu His Cys Ala Asn Phe Asn Val Leu Phe Ser Thr Val
4675 4680 4685

Phe Pro Pro Thr Ser Phe Gly Pro Leu Val Arg Lys Ile Phe Val Asp
4690 4695 4700

Gly Val Pro Phe Val Val Ser Thr Gly Tyr His Phe Arg Glu Leu Gly
4705 4710 4715 4720

Val Val His Asn Gln Asp Val Asn Leu His Ser Ser Arg Leu Ser Phe
4725 4730 4735

SEQLIST-20480.TXT

Lys Glu Leu Leu Val Tyr Ala Ala Asp Pro Ala Met His Ala Ala Ser
4740 4745 4750

Gly Asn Leu Leu Leu Asp Lys Arg Thr Thr Cys Phe Ser Val Ala Ala
4755 4760 4765

Leu Thr Asn Asn Val Ala Phe Gln Thr Val Lys Pro Gly Asn Phe Asn
4770 4775 4780

Lys Asp Phe Tyr Asp Phe Ala Val Ser Lys Gly Phe Phe Lys Glu Gly
4785 4790 4795 4800

Ser Ser Val Glu Leu Lys His Phe Phe Phe Ala Gln Asp Gly Asn Ala
4805 4810 4815

Ala Ile Ser Asp Tyr Asp Tyr Tyr Arg Tyr Asn Leu Pro Thr Met Cys
4820 4825 4830

Asp Ile Arg Gln Leu Leu Phe Val Val Glu Val Val Asp Lys Tyr Phe
4835 4840 4845

Asp Cys Tyr Asp Gly Gly Cys Ile Asn Ala Asn Gln Val Ile Val Asn
4850 4855 4860

Asn Leu Asp Lys Ser Ala Gly Phe Pro Phe Asn Lys Trp Gly Lys Ala
4865 4870 4875 4880

Arg Leu Tyr Tyr Asp Ser Met Ser Tyr Glu Asp Gln Asp Ala Leu Phe
4885 4890 4895

Ala Tyr Thr Lys Arg Asn Val Ile Pro Thr Ile Thr Gln Met Asn Leu
4900 4905 4910

Lys Tyr Ala Ile Ser Ala Lys Asn Arg Ala Arg Thr Val Ala Gly Val
4915 4920 4925

Ser Ile Cys Ser Thr Met Thr Asn Arg Gln Phe His Gln Lys Leu Leu
4930 4935 4940

Lys Ser Ile Ala Ala Thr Arg Gly Ala Thr Val Val Ile Gly Thr Ser
4945 4950 4955 4960

Lys Phe Tyr Gly Gly Trp His Asn Met Leu Lys Thr Val Tyr Ser Asp
4965 4970 4975

Val Glu Thr Pro His Leu Met Gly Trp Asp Tyr Pro Lys Cys Asp Arg
4980 4985 4990

Ala Met Pro Asn Met Leu Arg Ile Met Ala Ser Leu Val Leu Ala Arg
4995 5000 5005

Lys His Asn Thr Cys Cys Asn Leu Ser His Arg Phe Tyr Arg Leu Ala
5010 5015 5020

Asn Glu Cys Ala Gln Val Leu Ser Glu Met Val Met Cys Gly Gly Ser
5025 5030 5035 5040

Leu Tyr Val Lys Pro Gly Gly Thr Ser Ser Gly Asp Ala Thr Thr Ala
5045 5050 5055

Tyr Ala Asn Ser Val Phe Asn Ile Cys Gln Ala Val Thr Ala Asn Val
5060 5065 5070

SEQLIST-20480.TXT

Asn Ala Leu Leu Ser Thr Asp Gly Asn Lys Ile Ala Asp Lys Tyr Val
5075 5080 5085

Arg Asn Leu Gln His Arg Leu Tyr Glu Cys Leu Tyr Arg Asn Arg Asp
5090 5095 5100

Val Asp His Glu Phe Val Asp Glu Phe Tyr Ala Tyr Leu Arg Lys His
5105 5110 5115 5120

Phe Ser Met Met Ile Leu Ser Asp Asp Ala Val Val Cys Tyr Asn Ser
5125 5130 5135

Asn Tyr Ala Ala Gln Gly Leu Val Ala Ser Ile Lys Asn Phe Lys Ala
5140 5145 5150

Val Leu Tyr Tyr Gln Asn Asn Val Phe Met Ser Glu Ala Lys Cys Trp
5155 5160 5165

Thr Glu Thr Asp Leu Thr Lys Gly Pro His Glu Phe Cys Ser Gln His
5170 5175 5180

Thr Met Leu Val Lys Gln Gly Asp Asp Tyr Val Tyr Leu Pro Tyr Pro
5185 5190 5195 5200

Asp Pro Ser Arg Ile Leu Gly Ala Gly Cys Phe Val Asp Asp Ile Val
5205 5210 5215

Lys Thr Asp Gly Thr Leu Met Ile Glu Arg Phe Val Ser Leu Ala Ile
5220 5225 5230

Asp Ala Tyr Pro Leu Thr Lys His Pro Asn Gln Glu Tyr Ala Asp Val
5235 5240 5245

Phe His Leu Tyr Leu Gln Tyr Ile Arg Lys Leu His Asp Glu Leu Thr
5250 5255 5260

Gly His Met Leu Asp Met Tyr Ser Val Met Leu Thr Asn Asp Asn Thr
5265 5270 5275 5280

Ser Arg Tyr Trp Glu Pro Glu Phe Tyr Glu Ala Met Tyr Thr Pro His
5285 5290 5295

Thr Val Leu Gln Ala Val Gly Ala Cys Val Leu Cys Asn Ser Gln Thr
5300 5305 5310

Ser Leu Arg Cys Gly Ala Cys Ile Arg Arg Pro Phe Leu Cys Cys Lys
5315 5320 5325

Cys Cys Tyr Asp His Val Ile Ser Thr Ser His Lys Leu Val Leu Ser
5330 5335 5340

Val Asn Pro Tyr Val Cys Asn Ala Pro Gly Cys Asp Val Thr Asp Val
5345 5350 5355 5360

Thr Gln Leu Tyr Leu Gly Gly Met Ser Tyr Tyr Cys Lys Ser His Lys
5365 5370 5375

Pro Pro Ile Ser Phe Pro Leu Cys Ala Asn Gly Gln Val Phe Gly Leu
5380 5385 5390

Tyr Lys Asn Thr Cys Val Gly Ser Asp Asn Val Thr Asp Phe Asn Ala
5395 5400 5405

SEQLIST-20480.TXT

Ile Ala Thr Cys Asp Trp Thr Asn Ala Gly Asp Tyr Ile Leu Ala Asn
5410 5415 5420

Thr Cys Thr Glu Arg Leu Lys Leu Phe Ala Ala Glu Thr Leu Lys Ala
5425 5430 5435 5440

Thr Glu Glu Thr Phe Lys Leu Ser Tyr Gly Ile Ala Thr Val Arg Glu
5445 5450 5455

Val Leu Ser Asp Arg Glu Leu His Leu Ser Trp Glu Val Gly Lys Pro
5460 5465 5470

Arg Pro Pro Leu Asn Arg Asn Tyr Val Phe Thr Gly Tyr Arg Val Thr
5475 5480 5485

Lys Asn Ser Lys Val Gln Ile Gly Glu Tyr Thr Phe Glu Lys Gly Asp
5490 5495 5500

Tyr Gly Asp Ala Val Val Tyr Arg Gly Thr Thr Thr Tyr Lys Leu Asn
5505 5510 5515 5520

Val Gly Asp Tyr Phe Val Leu Thr Ser His Thr Val Met Pro Leu Ser
5525 5530 5535

Ala Pro Thr Leu Val Pro Gln Glu His Tyr Val Arg Ile Thr Gly Leu
5540 5545 5550

Tyr Pro Thr Leu Asn Ile Ser Asp Glu Phe Ser Ser Asn Val Ala Asn
5555 5560 5565

Tyr Gln Lys Val Gly Met Gln Lys Tyr Ser Thr Leu Gln Gly Pro Pro
5570 5575 5580

Gly Thr Gly Lys Ser His Phe Ala Ile Gly Leu Ala Leu Tyr Tyr Pro
5585 5590 5595 5600

Ser Ala Arg Ile Val Tyr Thr Ala Cys Ser His Ala Ala Val Asp Ala
5605 5610 5615

Leu Cys Glu Lys Ala Leu Lys Tyr Leu Pro Ile Asp Lys Cys Ser Arg
5620 5625 5630

Ile Ile Pro Ala Arg Ala Arg Val Glu Cys Phe Asp Lys Phe Lys Val
5635 5640 5645

Asn Ser Thr Leu Glu Gln Tyr Val Phe Cys Thr Val Asn Ala Leu Pro
5650 5655 5660

Glu Thr Thr Ala Asp Ile Val Val Phe Asp Glu Ile Ser Met Ala Thr
5665 5670 5675 5680

Asn Tyr Asp Leu Ser Val Val Asn Ala Arg Leu Arg Ala Lys His Tyr
5685 5690 5695

Val Tyr Ile Gly Asp Pro Ala Gln Leu Pro Ala Pro Arg Thr Leu Leu
5700 5705 5710

Thr Lys Gly Thr Leu Glu Pro Glu Tyr Phe Asn Ser Val Cys Arg Leu
5715 5720 5725

Met Lys Thr Ile Gly Pro Asp Met Phe Leu Gly Thr Cys Arg Arg Cys
5730 5735 5740

SEQLIST-20480.TXT

Pro Ala Glu Ile Val Asp Thr Val Ser Ala Leu Val Tyr Asp Asn Lys
5745 5750 5755 5760

Leu Lys Ala His Lys Asp Lys Ser Ala Gln Cys Phe Lys Met Phe Tyr
5765 5770 5775

Lys Gly Val Ile Thr His Asp Val Ser Ser Ala Ile Asn Arg Pro Gln
5780 5785 5790

Ile Gly Val Val Arg Glu Phe Leu Thr Arg Asn Pro Ala Trp Arg Lys
5795 5800 5805

Ala Val Phe Ile Ser Pro Tyr Asn Ser Gln Asn Ala Val Ala Ser Lys
5810 5815 5820

Ile Leu Gly Leu Pro Thr Gln Thr Val Asp Ser Ser Gln Gly Ser Glu
5825 5830 5835 5840

Tyr Asp Tyr Val Ile Phe Thr Gln Thr Thr Glu Thr Ala His Ser Cys
5845 5850 5855

Asn Val Asn Arg Phe Asn Val Ala Ile Thr Arg Ala Lys Ile Gly Ile
5860 5865 5870

Leu Cys Ile Met Ser Asp Arg Asp Leu Tyr Asp Lys Leu Gln Phe Thr
5875 5880 5885

Ser Leu Glu Ile Pro Arg Arg Asn Val Ala Thr Leu Gln Ala Glu Asn
5890 5895 5900

Val Thr Gly Leu Phe Lys Asp Cys Ser Lys Ile Ile Thr Gly Leu His
5905 5910 5915 5920

Pro Thr Gln Ala Pro Thr His Leu Ser Val Asp Ile Lys Phe Lys Thr
5925 5930 5935

Glu Gly Leu Cys Val Asp Ile Pro Gly Ile Pro Lys Asp Met Thr Tyr
5940 5945 5950

Arg Arg Leu Ile Ser Met Met Gly Phe Lys Met Asn Tyr Gln Val Asn
5955 5960 5965

Gly Tyr Pro Asn Met Phe Ile Thr Arg Glu Glu Ala Ile Arg His Val
5970 5975 5980

Arg Ala Trp Ile Gly Phe Asp Val Glu Gly Cys His Ala Thr Arg Asp
5985 5990 5995 6000

Ala Val Gly Thr Asn Leu Pro Leu Gln Leu Gly Phe Ser Thr Gly Val
6005 6010 6015

Asn Leu Val Ala Val Pro Thr Gly Tyr Val Asp Thr Glu Asn Asn Thr
6020 6025 6030

Glu Phe Thr Arg Val Asn Ala Lys Pro Pro Pro Gly Asp Gln Phe Lys
6035 6040 6045

His Leu Ile Pro Leu Met Tyr Lys Gly Leu Pro Trp Asn Val Val Arg
6050 6055 6060

Ile Lys Ile Val Gln Met Leu Ser Asp Thr Leu Lys Gly Leu Ser Asp
6065 6070 6075 6080

SEQLIST-20480.TXT

Arg Val Val Phe Val Leu Trp Ala His Gly Phe Glu Leu Thr Ser Met
6085 6090 6095

Lys Tyr Phe Val Lys Ile Gly Pro Glu Arg Thr Cys Cys Leu Cys Asp
6100 6105 6110

Lys Arg Ala Thr Cys Phe Ser Thr Ser Ser Asp Thr Tyr Ala Cys Trp
6115 6120 6125

Asn His Ser Val Gly Phe Asp Tyr Val Tyr Asn Pro Phe Met Ile Asp
6130 6135 6140

Val Gln Gln Trp Gly Phe Thr Gly Asn Leu Gln Ser Asn His Asp Gln
6145 6150 6155 6160

His Cys Gln Val His Gly Asn Ala His Val Ala Ser Cys Asp Ala Ile
6165 6170 6175

Met Thr Arg Cys Leu Ala Val His Glu Cys Phe Val Lys Arg Val Asp
6180 6185 6190

Trp Ser Val Glu Tyr Pro Ile Ile Gly Asp Glu Leu Arg Val Asn Ser
6195 6200 6205

Ala Cys Arg Lys Val Gln His Met Val Val Lys Ser Ala Leu Leu Ala
6210 6215 6220

Asp Lys Phe Pro Val Leu His Asp Ile Gly Asn Pro Lys Ala Ile Lys
6225 6230 6235 6240

Cys Val Pro Gln Ala Glu Val Glu Trp Lys Phe Tyr Asp Ala Gln Pro
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Cys Ser Asp Lys Ala Tyr Lys Ile Glu Glu Leu Phe Tyr Ser Tyr Ala
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Thr His His Asp Lys Phe Thr Asp Gly Val Cys Leu Phe Trp Asn Cys
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Asn Val Asp Arg Tyr Pro Ala Asn Ala Ile Val Cys Arg Phe Asp Thr
6290 6295 6300

Arg Val Leu Ser Asn Leu Asn Leu Pro Gly Cys Asp Gly Gly Ser Leu
6305 6310 6315 6320

Tyr Val Asn Lys His Ala Phe His Thr Pro Ala Phe Asp Lys Ser Ala
6325 6330 6335

Phe Thr Asn Leu Lys Gln Leu Pro Phe Phe Tyr Tyr Ser Asp Ser Pro
6340 6345 6350

Cys Glu Ser His Gly Lys Gln Val Val Ser Asp Ile Asp Tyr Val Pro
6355 6360 6365

Leu Lys Ser Ala Thr Cys Ile Thr Arg Cys Asn Leu Gly Gly Ala Val
6370 6375 6380

Cys Arg His His Ala Asn Glu Tyr Arg Gln Tyr Leu Asp Ala Tyr Asn
6385 6390 6395 6400

Met Met Ile Ser Ala Gly Phe Ser Leu Trp Ile Tyr Lys Gln Phe Asp
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SEQLIST-20480.TXT

Thr Tyr Asn Leu Trp Asn Thr Phe Thr Arg Leu Gln Ser Leu Glu Asn
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Val Ala Tyr Asn Val Val Asn Lys Gly His Phe Asp Gly His Ala Gly
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Glu Ala Pro Val Ser Ile Ile Asn Asn Ala Val Tyr Thr Lys Val Asp
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Gly Ile Asp Val Glu Ile Phe Glu Asn Lys Thr Thr Leu Pro Val Asn
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Val Ala Phe Glu Leu Trp Ala Lys Arg Asn Ile Lys Pro Val Pro Glu
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Ile Lys Ile Leu Asn Asn Leu Gly Val Asp Ile Ala Ala Asn Thr Val
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Ile Trp Asp Tyr Lys Arg Glu Ala Pro Ala His Val Ser Thr Ile Gly
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Val Cys Thr Met Thr Asp Ile Ala Lys Lys Pro Thr Glu Ser Ala Cys
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Ser Ser Leu Thr Val Leu Phe Asp Gly Arg Val Glu Gly Gln Val Asp
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Leu Phe Arg Asn Ala Arg Asn Gly Val Leu Ile Thr Glu Gly Ser Val
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Lys Gly Leu Thr Pro Ser Lys Gly Pro Ala Gln Ala Ser Val Asn Gly
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Val Thr Leu Ile Gly Glu Ser Val Lys Thr Gln Phe Asn Tyr Phe Lys
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Lys Val Asp Gly Ile Ile Gln Gln Leu Pro Glu Thr Tyr Phe Thr Gln
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Ser Arg Asp Leu Glu Asp Phe Lys Pro Arg Ser Gln Met Glu Thr Asp
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Phe Leu Glu Leu Ala Met Asp Glu Phe Ile Gln Arg Tyr Lys Leu Glu
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Gly Tyr Ala Phe Glu His Ile Val Tyr Gly Asp Phe Ser His Gly Gln
6660 6665 6670

Leu Gly Gly Leu His Leu Met Ile Gly Leu Ala Lys Arg Ser Gln Asp
6675 6680 6685

Ser Pro Leu Lys Leu Glu Asp Phe Ile Pro Met Asp Ser Thr Val Lys
6690 6695 6700

Asn Tyr Phe Ile Thr Asp Ala Gln Thr Gly Ser Ser Lys Cys Val Cys
6705 6710 6715 6720

Ser Val Ile Asp Leu Leu Leu Asp Asp Phe Val Glu Ile Ile Lys Ser
6725 6730 6735

Gln Asp Leu Ser Val Ile Ser Lys Val Val Lys Val Thr Ile Asp Tyr
6740 6745 6750

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Ala Glu Ile Ser Phe Met Leu Trp Cys Lys Asp Gly His Val Glu Thr
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Phe Tyr Pro Lys Leu Gln Ala Ser Arg Ala Trp Gln Pro Gly Val Ala
6770 6775 6780

Met Pro Asn Leu Tyr Lys Met Gln Arg Met Leu Leu Glu Lys Cys Asp
6785 6790 6795 6800

Leu Gln Asn Tyr Gly Glu Asn Ala Val Ile Pro Lys Gly Ile Met Met
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Asn Val Ala Lys Tyr Thr Gln Leu Cys Gln Tyr Leu Asn Thr Leu Thr
6820 6825 6830

Leu Ala Val Pro Tyr Asn Met Arg Val Ile His Phe Gly Ala Gly Ser
6835 6840 6845

Asp Lys Gly Val Ala Pro Gly Thr Ala Val Leu Arg Gln Trp Leu Pro
6850 6855 6860

Thr Gly Thr Leu Leu Val Asp Ser Asp Leu Asn Asp Phe Val Ser Asp
6865 6870 6875 6880

Ala Tyr Ser Thr Leu Ile Gly Asp Cys Ala Thr Val His Thr Ala Asn
6885 6890 6895

Lys Trp Asp Leu Ile Ile Ser Asp Met Tyr Asp Pro Arg Thr Lys His
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Val Thr Lys Glu Asn Asp Ser Lys Glu Gly Phe Phe Thr Tyr Leu Cys
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Gly Phe Ile Lys Gln Lys Leu Ala Leu Gly Gly Ser Ile Ala Val Lys
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Ile Thr Glu His Ser Trp Asn Ala Asp Leu Tyr Lys Leu Met Gly His
6945 6950 6955 6960

Phe Ser Trp Trp Thr Ala Phe Val Thr Asn Val Asn Ala Ser Ser Ser
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Glu Ala Phe Leu Ile Gly Ala Asn Tyr Leu Gly Lys Pro Lys Glu Gln
6980 6985 6990

Ile Asp Gly Tyr Thr Met His Ala Asn Tyr Ile Phe Trp Arg Asn Thr
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Asn Pro Ile Gln Leu Ser Ser Tyr Ser Leu Phe Asp Met Ser Lys Phe
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Pro Leu Lys Leu Arg Gly Thr Ala Val Met Ser Leu Lys Glu Asn Gln
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Ile Asn Asp Met Ile Tyr Ser Leu Leu Glu Lys Gly Arg Leu Ile Ile
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Arg Glu Asn Asn Arg Val Val Val Ser Ser Asp Ile Leu Val Asn Asn
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SEQLIST-20480.TXT

<212> PRT

<213> SARS coronavirus

<400> 7253

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20      25      30
Asp Ser Val Glu Glu Ala Leu Ser Glu Ala Arg Glu His Leu Lys Asn
35      40      45
Gly Thr Cys Gly Leu Val Glu Leu Glu Lys Gly Val Leu Pro Gln Leu
50      55      60
Glu Gln Pro Tyr Val Phe Ile Lys Arg Ser Asp Ala Leu Ser Thr Asn
65      70      75      80
His Gly His Lys Val Val Glu Leu Val Ala Glu Met Asp Gly Ile Gln
85      90      95
Tyr Gly Arg Ser Gly Ile Thr Leu Gly Val Leu Val Pro His Val Gly
100     105     110
Glu Thr Pro Ile Ala Tyr Arg Asn Val Leu Leu Arg Lys Asn Gly Asn
115     120     125
Lys Gly Ala Gly Gly His Ser Tyr Gly Ile Asp Leu Lys Ser Tyr Asp
130     135     140
Leu Gly Asp Glu Leu Gly Thr Asp Pro Ile Glu Asp Tyr Glu Gln Asn
145     150     155     160
Trp Asn Thr Lys His Gly Ser Gly Ala Leu Arg Glu Leu Thr Arg Glu
165     170     175
Leu Asn Gly Gly Ala Val Thr Arg Tyr Val Asp Asn Asn Phe Cys Gly
180     185     190
Pro Asp Gly Tyr Pro Leu Asp Cys Ile Lys Asp Phe Leu Ala Arg Ala
195     200     205
Gly Lys Ser Met Cys Thr Leu Ser Glu Gln Leu Asp Tyr Ile Glu Ser
210     215     220
Lys Arg Gly Val Tyr Cys Cys Arg Asp His Glu His Glu Ile Ala Trp
225     230     235     240
Phe Thr Glu Arg Ser Asp Lys Ser Tyr Glu His Gln Thr Pro Phe Glu
245     250     255
Ile Lys Ser Ala Lys Lys Phe Asp Thr Phe Lys Gly Glu Cys Pro Lys
260     265     270
Phe Val Phe Pro Leu Asn Ser Lys Val Lys Val Ile Gln Pro Arg Val
275     280     285
Glu Lys Lys Lys Thr Glu Gly Phe Met Gly Arg Ile Arg Ser Val Tyr
290     295     300
Pro Val Ala Ser Pro Gln Glu Cys Asn Asn Met His Leu Ser Thr Leu
305     310     315     320

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SEQLIST-20480.TXT

Met Lys Cys Asn His Cys Asp Glu Val Ser Trp Gln Thr Cys Asp Phe
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Leu Lys Ala Thr Cys Glu His Cys Gly Thr Glu Asn Leu Val Ile Glu
340 345 350
Gly Pro Thr Thr Cys Gly Tyr Leu Pro Thr Asn Ala Val Val Lys Met
355 360 365
Pro Cys Pro Ala Cys Gln Asp Pro Glu Ile Gly Pro Glu His Ser Val
370 375 380
Ala Asp Tyr His Asn His Ser Asn Ile Glu Thr Arg Leu Arg Lys Gly
385 390 395 400
Gly Arg Thr Arg Cys Phe Gly Gly Cys Val Phe Ala Tyr Val Gly Cys
405 410 415
Tyr Asn Lys Arg Ala Tyr Trp Val Pro Arg Ala Ser Ala Asp Ile Gly
420 425 430
Ser Gly His Thr Gly Ile Thr Gly Asp Asn Val Glu Thr Leu Asn Glu
435 440 445
Asp Leu Leu Glu Ile Leu Ser Arg Glu Arg Val Asn Ile Asn Ile Val
450 455 460
Gly Asp Phe His Leu Asn Glu Glu Val Ala Ile Ile Leu Ala Ser Phe
465 470 475 480
Ser Ala Ser Thr Ser Ala Phe Ile Asp Thr Ile Lys Ser Leu Asp Tyr
485 490 495
Lys Ser Phe Lys Thr Ile Val Glu Ser Cys Gly Asn Tyr Lys Val Thr
500 505 510
Lys Gly Lys Pro Val Lys Gly Ala Trp Asn Ile Gly Gln Gln Arg Ser
515 520 525
Val Leu Thr Pro Leu Cys Gly Phe Pro Ser Gln Ala Ala Gly Val Ile
530 535 540
Arg Ser Ile Phe Ala Arg Thr Leu Asp Ala Ala Asn His Ser Ile Pro
545 550 555 560
Asp Leu Gln Arg Ala Ala Val Thr Ile Leu Asp Gly Ile Ser Glu Gln
565 570 575
Ser Leu Arg Leu Val Asp Ala Met Val Tyr Thr Ser Asp Leu Leu Thr
580 585 590
Asn Ser Val Ile Ile Met Ala Tyr Val Thr Gly Gly Leu Val Gln Gln
595 600 605
Thr Ser Gln Trp Leu Ser Asn Leu Leu Gly Thr Thr Val Glu Lys Leu
610 615 620
Arg Pro Ile Phe Glu Trp Ile Glu Ala Lys Leu Ser Ala Gly Val Glu
625 630 635 640
Phe Leu Lys Asp Ala Trp Glu Ile Leu Lys Phe Leu Ile Thr Gly Val
645 650 655

SEQLIST-20480.TXT

Phe Asp Ile Val Lys Gly Gln Ile Gln Val Ala Ser Asp Asn Ile Lys
 660 665 670
 Asp Cys Val Lys Cys Phe Ile Asp Val Val Asn Lys Ala Leu Glu Met
 675 680 685
 Cys Ile Asp Gln Val Thr Ile Ala Gly Ala Lys Leu Arg Ser Leu Asn
 690 695 700
 Leu Gly Glu Val Phe Ile Ala Gln Ser Lys Gly Leu Tyr Arg Gln Cys
 705 710 715 720
 Ile Arg Gly Lys Glu Gln Leu Gln Leu Leu Met Pro Leu Lys Ala Pro
 725 730 735
 Lys Glu Val Thr Phe Leu Glu Gly Asp Ser His Asp Thr Val Leu Thr
 740 745 750
 Ser Glu Glu Val Val Leu Lys Asn Gly Glu Leu Glu Ala Leu Glu Thr
 755 760 765
 Pro Val Asp Ser Phe Thr Asn Gly Ala Ile Val Gly Thr Pro Val Cys
 770 775 780
 Val Asn Gly Leu Met Leu Leu Glu Ile Lys Asp Lys Glu Gln Tyr Cys
 785 790 795 800
 Ala Leu Ser Pro Gly Leu Leu Ala Thr Asn Asn Val Phe Arg Leu Lys
 805 810 815
 Gly Gly Ala Pro Ile Lys Gly Val Thr Phe Gly Glu Asp Thr Val Trp
 820 825 830
 Glu Val Gln Gly Tyr Lys Asn Val Arg Ile Thr Phe Glu Leu Asp Glu
 835 840 845
 Arg Val Asp Lys Val Leu Asn Glu Lys Cys Ser Val Tyr Thr Val Glu
 850 855 860
 Ser Gly Thr Glu Val Thr Glu Phe Ala Cys Val Val Ala Glu Ala Val
 865 870 875 880
 Val Lys Thr Leu Gln Pro Val Ser Asp Leu Leu Thr Asn Met Gly Ile
 885 890 895
 Asp Leu Asp Glu Trp Ser Val Ala Thr Phe Tyr Leu Phe Asp Asp Ala
 900 905 910
 Gly Glu Glu Asn Phe Ser Ser Arg Met Tyr Cys Ser Phe Tyr Pro Pro
 915 920 925
 Asp Glu Glu Glu Glu Asp Asp Ala Glu Cys Glu Glu Glu Ile Asp
 930 935 940
 Glu Thr Cys Glu His Glu Tyr Gly Thr Glu Asp Asp Tyr Gln Gly Leu
 945 950 955 960
 Pro Leu Glu Phe Gly Ala Ser Ala Glu Thr Val Arg Val Glu Glu Glu
 965 970 975
 Glu Glu Glu Asp Trp Leu Asp Asp Thr Thr Glu Gln Ser Glu Ile Glu
 980 985 990

SEQLIST-20480.TXT

Pro Glu Pro Glu Pro Thr Pro Glu Glu Pro Val Asn Gln Phe Thr Gly
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 Tyr Leu Lys Leu Thr Asp Asn Val Ala Ile Lys Cys Val Asp Ile Val
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 Lys Glu Ala Gln Ser Ala Asn Pro Met Val Ile Val Asn Ala Ala Asn
 1025 1030 1035 1040
 Ile His Leu Lys His Gly Gly Gly Val Ala Gly Ala Leu Asn Lys Ala
 1045 1050 1055
 Thr Asn Gly Ala Met Gln Lys Glu Ser Asp Asp Tyr Ile Lys Leu Asn
 1060 1065 1070
 Gly Pro Leu Thr Val Gly Gly Ser Cys Leu Leu Ser Gly His Asn Leu
 1075 1080 1085
 Ala Lys Lys Cys Leu His Val Val Gly Pro Asn Leu Asn Ala Gly Glu
 1090 1095 1100
 Asp Ile Gln Leu Leu Lys Ala Ala Tyr Glu Asn Phe Asn Ser Gln Asp
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 Ile Leu Leu Ala Pro Leu Leu Ser Ala Gly Ile Phe Gly Ala Lys Pro
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 Ile Ala Val Asn Asp Lys Ala Leu Tyr Glu Gln Val Val Met Asp Tyr
 1155 1160 1165
 Leu Asp Asn Leu Lys Pro Arg Val Glu Ala Pro Lys Gln Glu Glu Pro
 1170 1175 1180
 Pro Asn Thr Glu Asp Ser Lys Thr Glu Glu Lys Ser Val Val Gln Lys
 1185 1190 1195 1200
 Pro Val Asp Val Lys Pro Lys Ile Lys Ala Cys Ile Asp Glu Val Thr
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 Thr Thr Leu Glu Glu Thr Lys Phe Leu Thr Asn Lys Leu Leu Leu Phe
 1220 1225 1230
 Ala Asp Ile Asn Gly Lys Leu Tyr His Asp Ser Gln Asn Met Leu Arg
 1235 1240 1245
 Gly Glu Asp Met Ser Phe Leu Glu Lys Asp Ala Pro Tyr Met Val Gly
 1250 1255 1260
 Asp Val Ile Thr Ser Gly Asp Ile Thr Cys Val Val Ile Pro Ser Lys
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 Lys Ala Gly Gly Thr Thr Glu Met Leu Ser Arg Ala Leu Lys Lys Val
 1285 1290 1295
 Pro Val Asp Glu Tyr Ile Thr Thr Tyr Pro Gly Gln Gly Cys Ala Gly
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 Tyr Thr Leu Glu Glu Ala Lys Thr Ala Leu Lys Lys Cys Lys Ser Ala
 1315 1320 1325

SEQLIST-20480.TXT

Phe Tyr Val Leu Pro Ser Glu Ala Pro Asn Ala Lys Glu Glu Ile Leu
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 Gly Thr Val Ser Trp Asn Leu Arg Glu Met Leu Ala His Ala Glu Glu
 1345 1350 1355 1360
 Thr Arg Lys Leu Met Pro Ile Cys Met Asp Val Arg Ala Ile Met Ala
 1365 1370 1375
 Thr Ile Gln Arg Lys Tyr Lys Gly Ile Lys Ile Gln Glu Gly Ile Val
 1380 1385 1390
 Asp Tyr Gly Val Arg Phe Phe Phe Tyr Thr Ser Lys Glu Pro Val Ala
 1395 1400 1405
 Ser Ile Ile Thr Lys Leu Asn Ser Leu Asn Glu Pro Leu Val Thr Met
 1410 1415 1420
 Pro Ile Gly Tyr Val Thr His Gly Phe Asn Leu Glu Glu Ala Ala Arg
 1425 1430 1435 1440
 Cys Met Arg Ser Leu Lys Ala Pro Ala Val Val Ser Val Ser Ser Pro
 1445 1450 1455
 Asp Ala Val Thr Thr Tyr Asn Gly Tyr Leu Thr Ser Ser Ser Lys Thr
 1460 1465 1470
 Ser Glu Glu His Phe Val Glu Thr Val Ser Leu Ala Gly Ser Tyr Arg
 1475 1480 1485
 Asp Trp Ser Tyr Ser Gly Gln Arg Thr Glu Leu Gly Val Glu Phe Leu
 1490 1495 1500
 Lys Arg Gly Asp Lys Ile Val Tyr His Thr Leu Glu Ser Pro Val Glu
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 Phe His Leu Asp Gly Glu Val Leu Ser Leu Asp Lys Leu Lys Ser Leu
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 Leu Ser Leu Arg Glu Val Lys Thr Ile Lys Val Phe Thr Thr Val Asp
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 Asn Thr Asn Leu His Thr Gln Leu Val Asp Met Ser Met Thr Tyr Gly
 1555 1560 1565
 Gln Gln Phe Gly Pro Thr Tyr Leu Asp Gly Ala Asp Val Thr Lys Ile
 1570 1575 1580
 Lys Pro His Val Asn His Glu Gly Lys Thr Phe Phe Val Leu Pro Ser
 1585 1590 1595 1600
 Asp Asp Thr Leu Arg Ser Glu Ala Phe Glu Tyr Tyr His Thr Leu Asp
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 Glu Ser Phe Leu Gly Arg Tyr Met Ser Ala Leu Asn His Thr Lys Lys
 1620 1625 1630
 Trp Lys Phe Pro Gln Val Gly Gly Leu Thr Ser Ile Lys Trp Ala Asp
 1635 1640 1645
 Asn Asn Cys Tyr Leu Ser Ser Val Leu Leu Ala Leu Gln Gln Leu Glu
 1650 1655 1660

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Val Lys Phe Asn Ala Pro Ala Leu Gln Glu Ala Tyr Tyr Arg Ala Arg
1665 1670 1675 1680

Ala Gly Asp Ala Ala Asn Phe Cys Ala Leu Ile Leu Ala Tyr Ser Asn
1685 1690 1695

Lys Thr Val Gly Glu Leu Gly Asp Val Arg Glu Thr Met Thr His Leu
1700 1705 1710

Leu Gln His Ala Asn Leu Glu Ser Ala Lys Arg Val Leu Asn Val Val
1715 1720 1725

Cys Lys His Cys Gly Gln Lys Thr Thr Thr Leu Thr Gly Val Glu Ala
1730 1735 1740

Val Met Tyr Met Gly Thr Leu Ser Tyr Asp Asn Leu Lys Thr Gly Val
1745 1750 1755 1760

Ser Ile Pro Cys Val Cys Gly Arg Asp Ala Thr Gln Tyr Leu Val Gln
1765 1770 1775

Gln Glu Ser Ser Phe Val Met Met Ser Ala Pro Pro Ala Glu Tyr Lys
1780 1785 1790

Leu Gln Gln Gly Thr Phe Leu Cys Ala Asn Glu Tyr Thr Gly Asn Tyr
1795 1800 1805

Gln Cys Gly His Tyr Thr His Ile Thr Ala Lys Glu Thr Leu Tyr Arg
1810 1815 1820

Ile Asp Gly Ala His Leu Thr Lys Met Ser Glu Tyr Lys Gly Pro Val
1825 1830 1835 1840

Thr Asp Val Phe Tyr Lys Glu Thr Ser Tyr Thr Thr Thr Ile Lys Pro
1845 1850 1855

Val Ser Tyr Lys Leu Asp Gly Val Thr Tyr Thr Glu Ile Glu Pro Lys
1860 1865 1870

Leu Asp Gly Tyr Tyr Lys Lys Asp Asn Ala Tyr Tyr Thr Glu Gln Pro
1875 1880 1885

Ile Asp Leu Val Pro Thr Gln Pro Leu Pro Asn Ala Ser Phe Asp Asn
1890 1895 1900

Phe Lys Leu Thr Cys Ser Asn Thr Lys Phe Ala Asp Asp Leu Asn Gln
1905 1910 1915 1920

Met Thr Gly Phe Thr Lys Pro Ala Ser Arg Glu Leu Ser Val Thr Phe
1925 1930 1935

Phe Pro Asp Leu Asn Gly Asp Val Val Ala Ile Asp Tyr Arg His Tyr
1940 1945 1950

Ser Ala Ser Phe Lys Lys Gly Ala Lys Leu Leu His Lys Pro Ile Val
1955 1960 1965

Trp His Ile Asn Gln Ala Thr Thr Lys Thr Thr Phe Lys Pro Asn Thr
1970 1975 1980

Trp Cys Leu Arg Cys Leu Trp Ser Thr Lys Pro Val Asp Thr Ser Asn
1985 1990 1995 2000

SEQLIST-20480.TXT

Ser Phe Glu Val Leu Ala Val Glu Asp Thr Gln Gly Met Asp Asn Leu
2005 2010 2015

Ala Cys Glu Ser Gln Gln Pro Thr Ser Glu Glu Val Val Glu Asn Pro
2020 2025 2030

Thr Ile Gln Lys Glu Val Ile Glu Cys Asp Val Lys Thr Thr Glu Val
2035 2040 2045

Val Gly Asn Val Ile Leu Lys Pro Ser Asp Glu Gly Val Lys Val Thr
2050 2055 2060

Gln Glu Leu Gly His Glu Asp Leu Met Ala Ala Tyr Val Glu Asn Thr
2065 2070 2075 2080

Ser Ile Thr Ile Lys Lys Pro Asn Glu Leu Ser Leu Ala Leu Gly Leu
2085 2090 2095

Lys Thr Ile Ala Thr His Gly Ile Ala Ala Ile Asn Ser Val Pro Trp
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Ser Lys Ile Leu Ala Tyr Val Lys Pro Phe Leu Gly Gln Ala Ala Ile
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Thr Thr Ser Asn Cys Ala Lys Arg Leu Ala Gln Arg Val Phe Asn Asn
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Tyr Met Pro Tyr Val Phe Thr Leu Leu Phe Gln Leu Cys Thr Phe Thr
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Lys Ser Thr Asn Ser Arg Ile Arg Ala Ser Leu Pro Thr Thr Ile Ala
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Lys Asn Ser Val Lys Ser Val Ala Lys Leu Cys Leu Asp Ala Gly Ile
2180 2185 2190

Asn Tyr Val Lys Ser Pro Lys Phe Ser Lys Leu Phe Thr Ile Ala Met
2195 2200 2205

Trp Leu Leu Leu Leu Ser Ile Cys Leu Gly Ser Leu Ile Cys Val Thr
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Ala Ala Phe Gly Val Leu Leu Ser Asn Phe Gly Ala Pro Ser Tyr Cys
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Asn Gly Val Arg Glu Leu Tyr Leu Asn Ser Ser Asn Val Thr Thr Met
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Asp Phe Cys Glu Gly Ser Phe Pro Cys Ser Ile Cys Leu Ser Gly Leu
2260 2265 2270

Asp Ser Leu Asp Ser Tyr Pro Ala Leu Glu Thr Ile Gln Val Thr Ile
2275 2280 2285

Ser Ser Tyr Lys Leu Asp Leu Thr Ile Leu Gly Leu Ala Ala Glu Trp
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Val Leu Ala Tyr Met Leu Phe Thr Lys Phe Phe Tyr Leu Leu Gly Leu
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Ser Ala Ile Met Gln Val Phe Phe Gly Tyr Phe Ala Ser His Phe Ile
2325 2330 2335

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Pro Val Ser Ala Met Val Arg Met Tyr Ile Phe Phe Ala Ser Phe Tyr
2355 2360 2365

Tyr Ile Trp Lys Ser Tyr Val His Ile Met Asp Gly Cys Thr Ser Ser
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Thr Cys Met Met Cys Tyr Lys Arg Asn Arg Ala Thr Arg Val Glu Cys
2385 2390 2395 2400

Thr Thr Ile Val Asn Gly Met Lys Arg Ser Phe Tyr Val Tyr Ala Asn
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Gly Gly Arg Gly Phe Cys Lys Thr His Asn Trp Asn Cys Leu Asn Cys
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Asp Thr Phe Cys Thr Gly Ser Thr Phe Ile Ser Asp Glu Val Ala Arg
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Asp Leu Ser Leu Gln Phe Lys Arg Pro Ile Asn Pro Thr Asp Gln Ser
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Ser Tyr Ile Val Asp Ser Val Ala Val Lys Asn Gly Ala Leu His Leu
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Tyr Phe Asp Lys Ala Gly Gln Lys Thr Tyr Glu Arg His Pro Leu Ser
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His Phe Val Asn Leu Asp Asn Leu Arg Ala Asn Asn Thr Lys Gly Ser
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Leu Pro Ile Asn Val Ile Val Phe Asp Gly Lys Ser Lys Cys Asp Glu
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Pro Ile Leu Leu Leu Asp Gln Ala Leu Val Ser Asp Val Gly Asp Ser
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Ala His Ser Glu Leu Ala Lys Gly Val Ala Leu Asp Gly Val Leu Ser
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2610 2615 2620

Thr Lys Asp Val Ile Glu Cys Leu Lys Leu Ser His His Ser Asp Leu
2625 2630 2635 2640

Glu Val Thr Gly Asp Ser Cys Asn Asn Phe Met Leu Thr Tyr Asn Lys
2645 2650 2655

Val Glu Asn Met Thr Pro Arg Asp Leu Gly Ala Cys Ile Asp Cys Asn
2660 2665 2670

SEQLIST-20480.TXT

Ala Arg His Ile Asn Ala Gln Val Ala Lys Ser His Asn Val Ser Leu
2675 2680 2685

Ile Trp Asn Val Lys Asp Tyr Met Ser Leu Ser Glu Gln Leu Arg Lys
2690 2695 2700

Gln Ile Arg Ser Ala Ala Lys Lys Asn Asn Ile Pro Phe Arg Leu Thr
2705 2710 2715 2720

Cys Ala Thr Thr Arg Gln Val Val Asn Val Ile Thr Thr Lys Ile Ser
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Leu Lys Gly Gly Lys Ile Val Ser Thr Cys Phe Lys Leu Met Leu Lys
2740 2745 2750

Ala Thr Leu Leu Cys Val Leu Ala Ala Leu Val Cys Tyr Ile Val Met
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Pro Val His Thr Leu Ser Ile His Asp Gly Tyr Thr Asn Glu Ile Ile
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Gly Tyr Lys Ala Ile Gln Asp Gly Val Thr Arg Asp Ile Ile Ser Thr
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Asp Asp Cys Phe Ala Asn Lys His Ala Gly Phe Asp Ala Trp Phe Ser
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Thr Val Leu Arg Ala Ile Asn Gly Asp Phe Leu His Phe Leu Pro Arg
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Glu Tyr Ser Asp Phe Ala Thr Ser Ala Cys Val Leu Ala Ala Glu Cys
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Cys Arg His Gly Thr Cys Glu Arg Ser Glu Val Gly Ile Cys Leu Ser
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Thr Ser Gly Arg Trp Val Leu Asn Asn Glu His Tyr Arg Ala Leu Ser
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Gly Val Phe Cys Gly Val Asp Ala Met Asn Leu Ile Ala Asn Ile Phe
2995 3000 3005

SEQLIST-20480.TXT

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 Phe Met Lys Phe Arg Arg Val Phe Gly Glu Tyr Asn His Val Val Ala
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 Ala Asn Ala Leu Leu Phe Leu Met Ser Phe Thr Ile Leu Cys Leu Val
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 Pro Ala Tyr Ser Phe Leu Pro Gly Val Tyr Ser Val Phe Tyr Leu Tyr
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 Leu Thr Phe Tyr Phe Thr Asn Asp Val Ser Phe Leu Ala His Leu Gln
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 Trp Phe Ala Met Phe Ser Pro Ile Val Pro Phe Trp Ile Thr Ala Ile
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 Glu Glu Ala Ala Leu Cys Thr Phe Leu Leu Asn Lys Glu Met Tyr Leu
 3155 3160 3165
 Lys Leu Arg Ser Glu Thr Leu Leu Pro Leu Thr Gln Tyr Asn Arg Tyr
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 Leu Ala Leu Tyr Asn Lys Tyr Lys Tyr Phe Ser Gly Ala Leu Asp Thr
 3185 3190 3195 3200
 Thr Ser Tyr Arg Glu Ala Ala Cys Cys His Leu Ala Lys Ala Leu Asn
 3205 3210 3215
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 3220 3225 3230
 Ser Ile Thr Ser Ala Val Leu Gln Ser Gly Phe Arg Lys Met Ala Phe
 3235 3240 3245
 Pro Ser Gly Lys Val Glu Gly Cys Met Val Gln Val Thr Cys Gly Thr
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 Thr Thr Leu Asn Gly Leu Trp Leu Asp Asp Thr Val Tyr Cys Pro Arg
 3265 3270 3275 3280
 His Val Ile Cys Thr Ala Glu Asp Met Leu Asn Pro Asn Tyr Glu Asp
 3285 3290 3295
 Leu Leu Ile Arg Lys Ser Asn His Ser Phe Leu Val Gln Ala Gly Asn
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 Val Gln Leu Arg Val Ile Gly His Ser Met Gln Asn Cys Leu Leu Arg
 3315 3320 3325
 Leu Lys Val Asp Thr Ser Asn Pro Lys Thr Pro Lys Tyr Lys Phe Val
 3330 3335 3340

SEQLIST-20480.TXT

Arg Ile Gln Pro Gly Gln Thr Phe Ser Val Leu Ala Cys Tyr Asn Gly
3345 3350 3355 3360

Ser Pro Ser Gly Val Tyr Gln Cys Ala Met Arg Pro Asn His Thr Ile
3365 3370 3375

Lys Gly Ser Phe Leu Asn Gly Ser Cys Gly Ser Val Gly Phe Asn Ile
3380 3385 3390

Asp Tyr Asp Cys Val Ser Phe Cys Tyr Met His His Met Glu Leu Pro
3395 3400 3405

Thr Gly Val His Ala Gly Thr Asp Leu Glu Gly Lys Phe Tyr Gly Pro
3410 3415 3420

Phe Val Asp Arg Gln Thr Ala Gln Ala Ala Gly Thr Asp Thr Thr Ile
3425 3430 3435 3440

Thr Leu Asn Val Leu Ala Trp Leu Tyr Ala Ala Val Ile Asn Gly Asp
3445 3450 3455

Arg Trp Phe Leu Asn Arg Phe Thr Thr Thr Leu Asn Asp Phe Asn Leu
3460 3465 3470

Val Ala Met Lys Tyr Asn Tyr Glu Pro Leu Thr Gln Asp His Val Asp
3475 3480 3485

Ile Leu Gly Pro Leu Ser Ala Gln Thr Gly Ile Ala Val Leu Asp Met
3490 3495 3500

Cys Ala Ala Leu Lys Glu Leu Leu Gln Asn Gly Met Asn Gly Arg Thr
3505 3510 3515 3520

Ile Leu Gly Ser Thr Ile Leu Glu Asp Glu Phe Thr Pro Phe Asp Val
3525 3530 3535

Val Arg Gln Cys Ser Gly Val Thr Phe Gln Gly Lys Phe Lys Lys Ile
3540 3545 3550

Val Lys Gly Thr His His Trp Met Leu Leu Thr Phe Leu Thr Ser Leu
3555 3560 3565

Leu Ile Leu Val Gln Ser Thr Gln Trp Ser Leu Phe Phe Phe Val Tyr
3570 3575 3580

Glu Asn Ala Phe Leu Pro Phe Thr Leu Gly Ile Met Ala Ile Ala Ala
3585 3590 3595 3600

Cys Ala Met Leu Leu Val Lys His Lys His Ala Phe Leu Cys Leu Phe
3605 3610 3615

Leu Leu Pro Ser Leu Ala Thr Val Ala Tyr Phe Asn Met Val Tyr Met
3620 3625 3630

Pro Ala Ser Trp Val Met Arg Ile Met Thr Trp Leu Glu Leu Ala Asp
3635 3640 3645

Thr Ser Leu Ser Gly Tyr Arg Leu Lys Asp Cys Val Met Tyr Ala Ser
3650 3655 3660

Ala Leu Val Leu Leu Ile Leu Met Thr Ala Arg Thr Val Tyr Asp Asp
3665 3670 3675 3680

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Ala Ala Arg Arg Val Trp Thr Leu Met Asn Val Ile Thr Leu Val Tyr
3685 3690 3695

Lys Val Tyr Tyr Gly Asn Ala Leu Asp Gln Ala Ile Ser Met Trp Ala
3700 3705 3710

Leu Val Ile Ser Val Thr Ser Asn Tyr Ser Gly Val Val Thr Thr Ile
3715 3720 3725

Met Phe Leu Ala Arg Ala Ile Val Phe Val Cys Val Glu Tyr Tyr Pro
3730 3735 3740

Leu Leu Phe Ile Thr Gly Asn Thr Leu Gln Cys Ile Met Leu Val Tyr
3745 3750 3755 3760

Cys Phe Leu Gly Tyr Cys Cys Cys Cys Tyr Phe Gly Leu Phe Cys Leu
3765 3770 3775

Leu Asn Arg Tyr Phe Arg Leu Thr Leu Gly Val Tyr Asp Tyr Leu Val
3780 3785 3790

Ser Thr Gln Glu Phe Arg Tyr Met Asn Ser Gln Gly Leu Leu Pro Pro
3795 3800 3805

Lys Ser Ser Ile Asp Ala Phe Lys Leu Asn Ile Lys Leu Leu Gly Ile
3810 3815 3820

Gly Gly Lys Pro Cys Ile Lys Val Ala Thr Val Gln Ser Lys Met Ser
3825 3830 3835 3840

Asp Val Lys Cys Thr Ser Val Val Leu Leu Ser Val Leu Gln Gln Leu
3845 3850 3855

Arg Val Glu Ser Ser Ser Lys Leu Trp Ala Gln Cys Val Gln Leu His
3860 3865 3870

Asn Asp Ile Leu Leu Ala Lys Asp Thr Thr Glu Ala Phe Glu Lys Met
3875 3880 3885

Val Ser Leu Leu Ser Val Leu Leu Ser Met Gln Gly Ala Val Asp Ile
3890 3895 3900

Asn Arg Leu Cys Glu Glu Met Leu Asp Asn Arg Ala Thr Leu Gln Ala
3905 3910 3915 3920

Ile Ala Ser Glu Phe Ser Ser Leu Pro Ser Tyr Ala Ala Tyr Ala Thr
3925 3930 3935

Ala Gln Glu Ala Tyr Glu Gln Ala Val Ala Asn Gly Asp Ser Glu Val
3940 3945 3950

Val Leu Lys Lys Leu Lys Lys Ser Leu Asn Val Ala Lys Ser Glu Phe
3955 3960 3965

Asp Arg Asp Ala Ala Met Gln Arg Lys Leu Glu Lys Met Ala Asp Gln
3970 3975 3980

Ala Met Thr Gln Met Tyr Lys Gln Ala Arg Ser Glu Asp Lys Arg Ala
3985 3990 3995 4000

Lys Val Thr Ser Ala Met Gln Thr Met Leu Phe Thr Met Leu Arg Lys
4005 4010 4015

SEQLIST-20480.TXT

Leu Asp Asn Asp Ala Leu Asn Asn Ile Ile Asn Asn Ala Arg Asp Gly
 4020 4025 4030
 Cys Val Pro Leu Asn Ile Ile Pro Leu Thr Thr Ala Ala Lys Leu Met
 4035 4040 4045
 Val Val Val Pro Asp Tyr Gly Thr Tyr Lys Asn Thr Cys Asp Gly Asn
 4050 4055 4060
 Thr Phe Thr Tyr Ala Ser Ala Leu Trp Glu Ile Gln Gln Val Val Asp
 4065 4070 4075 4080
 Ala Asp Ser Lys Ile Val Gln Leu Ser Glu Ile Asn Met Asp Asn Ser
 4085 4090 4095
 Pro Asn Leu Ala Trp Pro Leu Ile Val Thr Ala Leu Arg Ala Asn Ser
 4100 4105 4110
 Ala Val Lys Leu Gln Asn Asn Glu Leu Ser Pro Val Ala Leu Arg Gln
 4115 4120 4125
 Met Ser Cys Ala Ala Gly Thr Thr Gln Thr Ala Cys Thr Asp Asp Asn
 4130 4135 4140
 Ala Leu Ala Tyr Tyr Asn Asn Ser Lys Gly Gly Arg Phe Val Leu Ala
 4145 4150 4155 4160
 Leu Leu Ser Asp His Gln Asp Leu Lys Trp Ala Arg Phe Pro Lys Ser
 4165 4170 4175
 Asp Gly Thr Gly Thr Ile Tyr Thr Glu Leu Glu Pro Pro Cys Arg Phe
 4180 4185 4190
 Val Thr Asp Thr Pro Lys Gly Pro Lys Val Lys Tyr Leu Tyr Phe Ile
 4195 4200 4205
 Lys Gly Leu Asn Asn Leu Asn Arg Gly Met Val Leu Gly Ser Leu Ala
 4210 4215 4220
 Ala Thr Val Arg Leu Gln Ala Gly Asn Ala Thr Glu Val Pro Ala Asn
 4225 4230 4235 4240
 Ser Thr Val Leu Ser Phe Cys Ala Phe Ala Val Asp Pro Ala Lys Ala
 4245 4250 4255
 Tyr Lys Asp Tyr Leu Ala Ser Gly Gly Gln Pro Ile Thr Asn Cys Val
 4260 4265 4270
 Lys Met Leu Cys Thr His Thr Gly Thr Gly Gln Ala Ile Thr Val Thr
 4275 4280 4285
 Pro Glu Ala Asn Met Asp Gln Glu Ser Phe Gly Gly Ala Ser Cys Cys
 4290 4295 4300
 Leu Tyr Cys Arg Cys His Ile Asp His Pro Asn Pro Lys Gly Phe Cys
 4305 4310 4315 4320
 Asp Leu Lys Gly Lys Tyr Val Gln Ile Pro Thr Thr Cys Ala Asn Asp
 4325 4330 4335
 Pro Val Gly Phe Thr Leu Arg Asn Thr Val Cys Thr Val Cys Gly Met
 4340 4345 4350

SEQLIST-20480.TXT

Trp Lys Gly Tyr Gly Cys Ser Cys Asp Gln Leu Arg Glu Pro Leu Met
 4355 4360 4365
 Gln Ser Ala Asp Ala Ser Thr Phe Leu Asn Arg Val Cys Gly Val Ser
 4370 4375 4380
 Ala Ala Arg Leu Thr Pro Cys Gly Thr Gly Thr Ser Thr Asp Val Val
 4385 4390 4395 4400
 Tyr Arg Ala Phe Asp Ile Tyr Asn Glu Lys Val Ala Gly Phe Ala Lys
 4405 4410 4415
 Phe Leu Lys Thr Asn Cys Cys Arg Phe Gln Glu Lys Asp Glu Glu Gly
 4420 4425 4430
 Asn Leu Leu Asp Ser Tyr Phe Val Val Lys Arg His Thr Met Ser Asn
 4435 4440 4445
 Tyr Gln His Glu Glu Thr Ile Tyr Asn Leu Val Lys Asp Cys Pro Ala
 4450 4455 4460
 Val Ala Val His Asp Phe Phe Lys Phe Arg Val Asp Gly Asp Met Val
 4465 4470 4475 4480
 Pro His Ile Ser Arg Gln Arg Leu Thr Lys Tyr Thr Met Ala Asp Leu
 4485 4490 4495
 Val Tyr Ala Leu Arg His Phe Asp Glu Gly Asn Cys Asp Thr Leu Lys
 4500 4505 4510
 Glu Ile Leu Val Thr Tyr Asn Cys Cys Asp Asp Asp Tyr Phe Asn Lys
 4515 4520 4525
 Lys Asp Trp Tyr Asp Phe Val Glu Asn Pro Asp Ile Leu Arg Val Tyr
 4530 4535 4540
 Ala Asn Leu Gly Glu Arg Val Arg Gln Ser Leu Leu Lys Thr Val Gln
 4545 4550 4555 4560
 Phe Cys Asp Ala Met Arg Asp Ala Gly Ile Val Gly Val Leu Thr Leu
 4565 4570 4575
 Asp Asn Gln Asp Leu Asn Gly Asn Trp Tyr Asp Phe Gly Asp Phe Val
 4580 4585 4590
 Gln Val Ala Pro Gly Cys Gly Val Pro Ile Val Asp Ser Tyr Tyr Ser
 4595 4600 4605
 Leu Leu Met Pro Ile Leu Thr Leu Thr Arg Ala Leu Ala Ala Glu Ser
 4610 4615 4620
 His Met Asp Ala Asp Leu Ala Lys Pro Leu Ile Lys Trp Asp Leu Leu
 4625 4630 4635 4640
 Lys Tyr Asp Phe Thr Glu Glu Arg Leu Cys Leu Phe Asp Arg Tyr Phe
 4645 4650 4655
 Lys Tyr Trp Asp Gln Thr Tyr His Pro Asn Cys Ile Asn Cys Leu Asp
 4660 4665 4670
 Asp Arg Cys Ile Leu His Cys Ala Asn Phe Asn Val Leu Phe Ser Thr
 4675 4680 4685

SEQLIST-20480.TXT

Val Phe Pro Pro Thr Ser Phe Gly Pro Leu Val Arg Lys Ile Phe Val
4690 4695 4700

Asp Gly Val Pro Phe Val Val Ser Thr Gly Tyr His Phe Arg Glu Leu
4705 4710 4715 4720

Gly Val Val His Asn Gln Asp Val Asn Leu His Ser Ser Arg Leu Ser
4725 4730 4735

Phe Lys Glu Leu Leu Val Tyr Ala Ala Asp Pro Ala Met His Ala Ala
4740 4745 4750

Ser Gly Asn Leu Leu Leu Asp Lys Arg Thr Thr Cys Phe Ser Val Ala
4755 4760 4765

Ala Leu Thr Asn Asn Val Ala Phe Gln Thr Val Lys Pro Gly Asn Phe
4770 4775 4780

Asn Lys Asp Phe Tyr Asp Phe Ala Val Ser Lys Gly Phe Phe Lys Glu
4785 4790 4795 4800

Gly Ser Ser Val Glu Leu Lys His Phe Phe Phe Ala Gln Asp Gly Asn
4805 4810 4815

Ala Ala Ile Ser Asp Tyr Asp Tyr Tyr Arg Tyr Asn Leu Pro Thr Met
4820 4825 4830

Cys Asp Ile Arg Gln Leu Leu Phe Val Val Glu Val Val Asp Lys Tyr
4835 4840 4845

Phe Asp Cys Tyr Asp Gly Gly Cys Ile Asn Ala Asn Gln Val Ile Val
4850 4855 4860

Asn Asn Leu Asp Lys Ser Ala Gly Phe Pro Phe Asn Lys Trp Gly Lys
4865 4870 4875 4880

Ala Arg Leu Tyr Tyr Asp Ser Met Ser Tyr Glu Asp Gln Asp Ala Leu
4885 4890 4895

Phe Ala Tyr Thr Lys Arg Asn Val Ile Pro Thr Ile Thr Gln Met Asn
4900 4905 4910

Leu Lys Tyr Ala Ile Ser Ala Lys Asn Arg Ala Arg Thr Val Ala Gly
4915 4920 4925

Val Ser Ile Cys Ser Thr Met Thr Asn Arg Gln Phe His Gln Lys Leu
4930 4935 4940

Leu Lys Ser Ile Ala Ala Thr Arg Gly Ala Thr Val Val Ile Gly Thr
4945 4950 4955 4960

Ser Lys Phe Tyr Gly Gly Trp His Asn Met Leu Lys Thr Val Tyr Ser
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Asp Val Glu Thr Pro His Leu Met Gly Trp Asp Tyr Pro Lys Cys Asp
4980 4985 4990

Arg Ala Met Pro Asn Met Leu Arg Ile Met Ala Ser Leu Val Leu Ala
4995 5000 5005

Arg Lys His Asn Thr Cys Cys Asn Leu Ser His Arg Phe Tyr Arg Leu
5010 5015 5020

SEQLIST-20480.TXT

Ala Asn Glu Cys Ala Gln Val Leu Ser Glu Met Val Met Cys Gly Gly
5025 5030 5035 5040

Ser Leu Tyr Val Lys Pro Gly Gly Thr Ser Ser Gly Asp Ala Thr Thr
5045 5050 5055

Ala Tyr Ala Asn Ser Val Phe Asn Ile Cys Gln Ala Val Thr Ala Asn
5060 5065 5070

Val Asn Ala Leu Leu Ser Thr Asp Gly Asn Lys Ile Ala Asp Lys Tyr
5075 5080 5085

Val Arg Asn Leu Gln His Arg Leu Tyr Glu Cys Leu Tyr Arg Asn Arg
5090 5095 5100

Asp Val Asp His Glu Phe Val Asp Glu Phe Tyr Ala Tyr Leu Arg Lys
5105 5110 5115 5120

His Phe Ser Met Met Ile Leu Ser Asp Asp Ala Val Val Cys Tyr Asn
5125 5130 5135

Ser Asn Tyr Ala Ala Gln Gly Leu Val Ala Ser Ile Lys Asn Phe Lys
5140 5145 5150

Ala Val Leu Tyr Tyr Gln Asn Asn Val Phe Met Ser Glu Ala Lys Cys
5155 5160 5165

Trp Thr Glu Thr Asp Leu Thr Lys Gly Pro His Glu Phe Cys Ser Gln
5170 5175 5180

His Thr Met Leu Val Lys Gln Gly Asp Asp Tyr Val Tyr Leu Pro Tyr
5185 5190 5195 5200

Pro Asp Pro Ser Arg Ile Leu Gly Ala Gly Cys Phe Val Asp Asp Ile
5205 5210 5215

Val Lys Thr Asp Gly Thr Leu Met Ile Glu Arg Phe Val Ser Leu Ala
5220 5225 5230

Ile Asp Ala Tyr Pro Leu Thr Lys His Pro Asn Gln Glu Tyr Ala Asp
5235 5240 5245

Val Phe His Leu Tyr Leu Gln Tyr Ile Arg Lys Leu His Asp Glu Leu
5250 5255 5260

Thr Gly His Met Leu Asp Met Tyr Ser Val Met Leu Thr Asn Asp Asn
5265 5270 5275 5280

Thr Ser Arg Tyr Trp Glu Pro Glu Phe Tyr Glu Ala Met Tyr Thr Pro
5285 5290 5295

His Thr Val Leu Gln Ala Val Gly Ala Cys Val Leu Cys Asn Ser Gln
5300 5305 5310

Thr Ser Leu Arg Cys Gly Ala Cys Ile Arg Arg Pro Phe Leu Cys Cys
5315 5320 5325

Lys Cys Cys Tyr Asp His Val Ile Ser Thr Ser His Lys Leu Val Leu
5330 5335 5340

Ser Val Asn Pro Tyr Val Cys Asn Ala Pro Gly Cys Asp Val Thr Asp
5345 5350 5355 5360

SEQLIST-20480.TXT

Val Thr Gln Leu Tyr Leu Gly Gly Met Ser Tyr Tyr Cys Lys Ser His
5365 5370 5375

Lys Pro Pro Ile Ser Phe Pro Leu Cys Ala Asn Gly Gln Val Phe Gly
5380 5385 5390

Leu Tyr Lys Asn Thr Cys Val Gly Ser Asp Asn Val Thr Asp Phe Asn
5395 5400 5405

Ala Ile Ala Thr Cys Asp Trp Thr Asn Ala Gly Asp Tyr Ile Leu Ala
5410 5415 5420

Asn Thr Cys Thr Glu Arg Leu Lys Leu Phe Ala Ala Glu Thr Leu Lys
5425 5430 5440

Ala Thr Glu Glu Thr Phe Lys Leu Ser Tyr Gly Ile Ala Thr Val Arg
5445 5450 5455

Glu Val Leu Ser Asp Arg Glu Leu His Leu Ser Trp Glu Val Gly Lys
5460 5465 5470

Pro Arg Pro Pro Leu Asn Arg Asn Tyr Val Phe Thr Gly Tyr Arg Val
5475 5480 5485

Thr Lys Asn Ser Lys Val Gln Ile Gly Glu Tyr Thr Phe Glu Lys Gly
5490 5495 5500

Asp Tyr Gly Asp Ala Val Val Tyr Arg Gly Thr Thr Thr Tyr Lys Leu
5505 5510 5520

Asn Val Gly Asp Tyr Phe Val Leu Thr Ser His Thr Val Met Pro Leu
5525 5530 5535

Ser Ala Pro Thr Leu Val Pro Gln Glu His Tyr Val Arg Ile Thr Gly
5540 5545 5550

Leu Tyr Pro Thr Leu Asn Ile Ser Asp Glu Phe Ser Ser Asn Val Ala
5555 5560 5565

Asn Tyr Gln Lys Val Gly Met Gln Lys Tyr Ser Thr Leu Gln Gly Pro
5570 5575 5580

Pro Gly Thr Gly Lys Ser His Phe Ala Ile Gly Leu Ala Leu Tyr Tyr
5585 5590 5595 5600

Pro Ser Ala Arg Ile Val Tyr Thr Ala Cys Ser His Ala Ala Val Asp
5605 5610 5615

Ala Leu Cys Glu Lys Ala Leu Lys Tyr Leu Pro Ile Asp Lys Cys Ser
5620 5625 5630

Arg Ile Ile Pro Ala Arg Ala Arg Val Glu Cys Phe Asp Lys Phe Lys
5635 5640 5645

Val Asn Ser Thr Leu Glu Gln Tyr Val Phe Cys Thr Val Asn Ala Leu
5650 5655 5660

Pro Glu Thr Thr Ala Asp Ile Val Val Phe Asp Glu Ile Ser Met Ala
5665 5670 5675 5680

Thr Asn Tyr Asp Leu Ser Val Val Asn Ala Arg Leu Arg Ala Lys His
5685 5690 5695

SEQLIST-20480.TXT

Tyr Val Tyr Ile Gly Asp Pro Ala Gln Leu Pro Ala Pro Arg Thr Leu
 5700 5705 5710
 Leu Thr Lys Gly Thr Leu Glu Pro Glu Tyr Phe Asn Ser Val Cys Arg
 5715 5720 5725
 Leu Met Lys Thr Ile Gly Pro Asp Met Phe Leu Gly Thr Cys Arg Arg
 5730 5735 5740
 Cys Pro Ala Glu Ile Val Asp Thr Val Ser Ala Leu Val Tyr Asp Asn
 5745 5750 5755 5760
 Lys Leu Lys Ala His Lys Asp Lys Ser Ala Gln Cys Phe Lys Met Phe
 5765 5770 5775
 Tyr Lys Gly Val Ile Thr His Asp Val Ser Ser Ala Ile Asn Arg Pro
 5780 5785 5790
 Gln Ile Gly Val Val Arg Glu Phe Leu Thr Arg Asn Pro Ala Trp Arg
 5795 5800 5805
 Lys Ala Val Phe Ile Ser Pro Tyr Asn Ser Gln Asn Ala Val Ala Ser
 5810 5815 5820
 Lys Ile Leu Gly Leu Pro Thr Gln Thr Val Asp Ser Ser Gln Gly Ser
 5825 5830 5835 5840
 Glu Tyr Asp Tyr Val Ile Phe Thr Gln Thr Thr Glu Thr Ala His Ser
 5845 5850 5855
 Cys Asn Val Asn Arg Phe Asn Val Ala Ile Thr Arg Ala Lys Ile Gly
 5860 5865 5870
 Ile Leu Cys Ile Met Ser Asp Arg Asp Leu Tyr Asp Lys Leu Gln Phe
 5875 5880 5885
 Thr Ser Leu Glu Ile Pro Arg Arg Asn Val Ala Thr Leu Gln Ala Glu
 5890 5895 5900
 Asn Val Thr Gly Leu Phe Lys Asp Cys Ser Lys Ile Ile Thr Gly Leu
 5905 5910 5915 5920
 His Pro Thr Gln Ala Pro Thr His Leu Ser Val Asp Ile Lys Phe Lys
 5925 5930 5935
 Thr Glu Gly Leu Cys Val Asp Ile Pro Gly Ile Pro Lys Asp Met Thr
 5940 5945 5950
 Tyr Arg Arg Leu Ile Ser Met Met Gly Phe Lys Met Asn Tyr Gln Val
 5955 5960 5965
 Asn Gly Tyr Pro Asn Met Phe Ile Thr Arg Glu Glu Ala Ile Arg His
 5970 5975 5980
 Val Arg Ala Trp Ile Gly Phe Asp Val Glu Gly Cys His Ala Thr Arg
 5985 5990 5995 6000
 Asp Ala Val Gly Thr Asn Leu Pro Leu Gln Leu Gly Phe Ser Thr Gly
 6005 6010 6015
 Val Asn Leu Val Ala Val Pro Thr Gly Tyr Val Asp Thr Glu Asn Asn
 6020 6025 6030

SEQLIST-20480.TXT

Thr Glu Phe Thr Arg Val Asn Ala Lys Pro Pro Pro Gly Asp Gln Phe
 6035 6040 6045
 Lys His Leu Ile Pro Leu Met Tyr Lys Gly Leu Pro Trp Asn Val Val
 6050 6055 6060
 Arg Ile Lys Ile Val Gln Met Leu Ser Asp Thr Leu Lys Gly Leu Ser
 6065 6070 6075 6080
 Asp Arg Val Val Phe Val Leu Trp Ala His Gly Phe Glu Leu Thr Ser
 6085 6090 6095
 Met Lys Tyr Phe Val Lys Ile Gly Pro Glu Arg Thr Cys Cys Leu Cys
 6100 6105 6110
 Asp Lys Arg Ala Thr Cys Phe Ser Thr Ser Ser Asp Thr Tyr Ala Cys
 6115 6120 6125
 Trp Asn His Ser Val Gly Phe Asp Tyr Val Tyr Asn Pro Phe Met Ile
 6130 6135 6140
 Asp Val Gln Gln Trp Gly Phe Thr Gly Asn Leu Gln Ser Asn His Asp
 6145 6150 6155 6160
 Gln His Cys Gln Val His Gly Asn Ala His Val Ala Ser Cys Asp Ala
 6165 6170 6175
 Ile Met Thr Arg Cys Leu Ala Val His Glu Cys Phe Val Lys Arg Val
 6180 6185 6190
 Asp Trp Ser Val Glu Tyr Pro Ile Ile Gly Asp Glu Leu Arg Val Asn
 6195 6200 6205
 Ser Ala Cys Arg Lys Val Gln His Met Val Val Lys Ser Ala Leu Leu
 6210 6215 6220
 Ala Asp Lys Phe Pro Val Leu His Asp Ile Gly Asn Pro Lys Ala Ile
 6225 6230 6235 6240
 Lys Cys Val Pro Gln Ala Glu Val Glu Trp Lys Phe Tyr Asp Ala Gln
 6245 6250 6255
 Pro Cys Ser Asp Lys Ala Tyr Lys Ile Glu Glu Leu Phe Tyr Ser Tyr
 6260 6265 6270
 Ala Thr His His Asp Lys Phe Thr Asp Gly Val Cys Leu Phe Trp Asn
 6275 6280 6285
 Cys Asn Val Asp Arg Tyr Pro Ala Asn Ala Ile Val Cys Arg Phe Asp
 6290 6295 6300
 Thr Arg Val Leu Ser Asn Leu Asn Leu Pro Gly Cys Asp Gly Gly Ser
 6305 6310 6315 6320
 Leu Tyr Val Asn Lys His Ala Phe His Thr Pro Ala Phe Asp Lys Ser
 6325 6330 6335
 Ala Phe Thr Asn Leu Lys Gln Leu Pro Phe Phe Tyr Tyr Ser Asp Ser
 6340 6345 6350
 Pro Cys Glu Ser His Gly Lys Gln Val Val Ser Asp Ile Asp Tyr Val
 6355 6360 6365

SEQLIST-20480.TXT

Pro Leu Lys Ser Ala Thr Cys Ile Thr Arg Cys Asn Leu Gly Gly Ala
6370 6375 6380

Val Cys Arg His His Ala Asn Glu Tyr Arg Gln Tyr Leu Asp Ala Tyr
6385 6390 6395 6400

Asn Met Met Ile Ser Ala Gly Phe Ser Leu Trp Ile Tyr Lys Gln Phe
6405 6410 6415

Asp Thr Tyr Asn Leu Trp Asn Thr Phe Thr Arg Leu Gln Ser Leu Glu
6420 6425 6430

Asn Val Ala Tyr Asn Val Val Asn Lys Gly His Phe Asp Gly His Ala
6435 6440 6445

Gly Glu Ala Pro Val Ser Ile Ile Asn Asn Ala Val Tyr Thr Lys Val
6450 6455 6460

Asp Gly Ile Asp Val Glu Ile Phe Glu Asn Lys Thr Thr Leu Pro Val
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Asn Val Ala Phe Glu Leu Trp Ala Lys Arg Asn Ile Lys Pro Val Pro
6485 6490 6495

Glu Ile Lys Ile Leu Asn Asn Leu Gly Val Asp Ile Ala Ala Asn Thr
6500 6505 6510

Val Ile Trp Asp Tyr Lys Arg Glu Ala Pro Ala His Val Ser Thr Ile
6515 6520 6525

Gly Val Cys Thr Met Thr Asp Ile Ala Lys Lys Pro Thr Glu Ser Ala
6530 6535 6540

Cys Ser Ser Leu Thr Val Leu Phe Asp Gly Arg Val Glu Gly Gln Val
6545 6550 6555 6560

Asp Leu Phe Arg Asn Ala Arg Asn Gly Val Leu Ile Thr Glu Gly Ser
6565 6570 6575

Val Lys Gly Leu Thr Pro Ser Lys Gly Pro Ala Gln Ala Ser Val Asn
6580 6585 6590

Gly Val Thr Leu Ile Gly Glu Ser Val Lys Thr Gln Phe Asn Tyr Phe
6595 6600 6605

Lys Lys Val Asp Gly Ile Ile Gln Gln Leu Pro Glu Thr Tyr Phe Thr
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Gln Ser Arg Asp Leu Glu Asp Phe Lys Pro Arg Ser Gln Met Glu Thr
6625 6630 6635 6640

Asp Phe Leu Glu Leu Ala Met Asp Glu Phe Ile Gln Arg Tyr Lys Leu
6645 6650 6655

Glu Gly Tyr Ala Phe Glu His Ile Val Tyr Gly Asp Phe Ser His Gly
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Gln Leu Gly Gly Leu His Leu Met Ile Gly Leu Ala Lys Arg Ser Gln
6675 6680 6685

Asp Ser Pro Leu Lys Leu Glu Asp Phe Ile Pro Met Asp Ser Thr Val
6690 6695 6700

SEQLIST-20480.TXT

Lys Asn Tyr Phe Ile Thr Asp Ala Gln Thr Gly Ser Ser Lys Cys Val
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 Cys Ser Val Ile Asp Leu Leu Leu Asp Asp Phe Val Glu Ile Ile Lys
 6725 6730 6735
 Ser Gln Asp Leu Ser Val Ile Ser Lys Val Val Lys Val Thr Ile Asp
 6740 6745 6750
 Tyr Ala Glu Ile Ser Phe Met Leu Trp Cys Lys Asp Gly His Val Glu
 6755 6760 6765
 Thr Phe Tyr Pro Lys Leu Gln Ala Ser Arg Ala Trp Gln Pro Gly Val
 6770 6775 6780
 Ala Met Pro Asn Leu Tyr Lys Met Gln Arg Met Leu Leu Glu Lys Cys
 6785 6790 6795 6800
 Asp Leu Gln Asn Tyr Gly Glu Asn Ala Val Ile Pro Lys Gly Ile Met
 6805 6810 6815
 Met Asn Val Ala Lys Tyr Thr Gln Leu Cys Gln Tyr Leu Asn Thr Leu
 6820 6825 6830
 Thr Leu Ala Val Pro Tyr Asn Met Arg Val Ile His Phe Gly Ala Gly
 6835 6840 6845
 Ser Asp Lys Gly Val Ala Pro Gly Thr Ala Val Leu Arg Gln Trp Leu
 6850 6855 6860
 Pro Thr Gly Thr Leu Leu Val Asp Ser Asp Leu Asn Asp Phe Val Ser
 6865 6870 6875 6880
 Asp Ala Tyr Ser Thr Leu Ile Gly Asp Cys Ala Thr Val His Thr Ala
 6885 6890 6895
 Asn Lys Trp Asp Leu Ile Ile Ser Asp Met Tyr Asp Pro Arg Thr Lys
 6900 6905 6910
 His Val Thr Lys Glu Asn Asp Ser Lys Glu Gly Phe Phe Thr Tyr Leu
 6915 6920 6925
 Cys Gly Phe Ile Lys Gln Lys Leu Ala Leu Gly Gly Ser Ile Ala Val
 6930 6935 6940
 Lys Ile Thr Glu His Ser Trp Asn Ala Asp Leu Tyr Lys Leu Met Gly
 6945 6950 6955 6960
 His Phe Ser Trp Trp Thr Ala Phe Val Thr Asn Val Asn Ala Ser Ser
 6965 6970 6975
 Ser Glu Ala Phe Leu Ile Gly Ala Asn Tyr Leu Gly Lys Pro Lys Glu
 6980 6985 6990
 Gln Ile Asp Gly Tyr Thr Met His Ala Asn Tyr Ile Phe Trp Arg Asn
 6995 7000 7005
 Thr Asn Pro Ile Gln Leu Ser Ser Tyr Ser Leu Phe Asp Met Ser Lys
 7010 7015 7020
 Phe Pro Leu Lys Leu Arg Gly Thr Ala Val Met Ser Leu Lys Glu Asn
 7025 7030 7035 7040

SEQLIST-20480.TXT

Gln Ile Asn Asp Met Ile Tyr Ser Leu Leu Glu Lys Gly Arg Leu Ile
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Ile Arg Glu Asn Asn Arg Val Val Val Ser Ser Asp Ile Leu Val Asn
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Asn

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SEQLIST-20480.TXT

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SEQLIST-20480.TXT

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<400> 7270
 Asn Asn Thr Ala
 1

<210> 7271
 <211> 4
 <212> PRT
 <213> SARS coronavirus

<400> 7271
 Asn Val Thr Gln
 1

<210> 7272
 <211> 48
 <212> PRT
 <213> SARS coronavirus

<400> 7272
 Met Val Leu Met Trp Arg Ser Leu Lys Ile Arg Gln His Phe Leu Leu
 1 5 10 15

Met Leu His Leu Ser Phe Gly Leu Ser Val Thr Leu Asn Gln Cys Gln
 20 25 30

Arg Leu Arg Tyr Ser Ile Ile Trp Val Leu Ile Ser Leu Leu Ile Leu
 35 40 45

<210> 7273

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<211> 147
<212> DNA
<213> SARS coronavirus

<400> 7273
atggtattga tgtggagatc ttgaaaata agacaacact tcctgttaat gttgcatttg 60
agctttgggc taagcgtaac attaaaccag tgccagagat taagatactc aataatttgg 120
gtgttgatat cgctgctaact actgtaa 147

<210> 7274
<211> 42
<212> PRT
<213> SARS coronavirus

<400> 7274
Met Leu Gln Gly Phe Ile Leu Leu Ile Ile Arg Leu Ala Thr Leu Ser
1 5 10 15
Tyr Leu Leu Arg Met Val Phe Ile Leu Leu Pro Gln Arg Asn Gln Met
20 25 30
Leu Ser Val Val Gly Phe Leu Val Leu Pro
35 40

<210> 7275
<211> 129
<212> DNA
<213> SARS coronavirus

<400> 7275
atgttacagg gtttcatact attaatacata cgtttggcaa ccctgtcata ccttttaagg 60
atggtattta ttttgctgcc acagagaaat caaatgttgt ccgtgggttg gtttttgggt 120
ctaccatga 129

<210> 7276
<211> 48
<212> PRT
<213> SARS coronavirus

<400> 7276
Met His Leu Ile Ala Leu Ser Ser Thr Tyr Leu Met Pro Phe Arg Leu
1 5 10 15
Met Phe Gln Lys Ser Gln Val Ile Leu Asn Thr Tyr Glu Ser Leu Cys
20 25 30
Leu Lys Ile Lys Met Gly Phe Ser Met Phe Ile Arg Ala Ile Asn Leu
35 40 45

<210> 7277
<211> 147
<212> DNA
<213> SARS coronavirus

<400> 7277
atgcatttaa ttgcactttc gagtacatat ctgatgcctt ttcgcttgat gtttcagaaa 60
agtcaggtaa ttttaaacac ttacgagagt ttgtgtttaa aaataaagat gggtttctct 120
atgtttataa gggctatcaa cctatag 147

<210> 7278
<211> 48
<212> PRT

SEQLIST-20480.TXT

<213> SARS coronavirus

<400> 7278

Met Met Lys Met Val Gln Ser Gln Met Leu Leu Ile Val Leu Lys Ile
1 5 10 15
His Leu Leu Asn Ser Asn Ala Leu Leu Arg Ala Leu Arg Leu Thr Lys
20 25 30
Glu Phe Thr Arg Pro Leu Ile Ser Gly Leu Phe Pro Gln Glu Met Leu
35 40 45

<210> 7279

<211> 147

<212> DNA

<213> SARS coronavirus

<400> 7279

atgatgaaaa tggatcaatc acagatgctg ttgattgttc tcaaaatcca cttgctgaac 60
tcaaattgctc tggtaagagc tttagagattg acaaaggaat ttaccagacc tctaatttca 120
gggttggtcc ctcaggagat gttgtga 147

<210> 7280

<211> 44

<212> PRT

<213> SARS coronavirus

<400> 7280

Met Leu Leu Asn Ser Leu Leu Ser Met His Gly Arg Glu Lys Lys Phe
1 5 10 15
Leu Ile Val Leu Leu Ile Thr Leu Cys Ser Thr Thr Gln His Phe Phe
20 25 30
Gln Pro Leu Ser Ala Met Ala Phe Leu Pro Leu Ser
35 40

<210> 7281

<211> 135

<212> DNA

<213> SARS coronavirus

<400> 7281

atgctactaa attcccttct gtctatgcat gggagagaaa aaaaatttct aattgtgttg 60
ctgattactc tgtgctctac aactcaacat tttttcaac cttaagtgc tatggcgttt 120
ctgccactaa gttga 135

<210> 7282

<211> 64

<212> PRT

<213> SARS coronavirus

<400> 7282

Met Ile Ser Trp Val Val Ser Leu Leu Gly Ile Leu Gly Thr Leu Met
1 5 10 15
Leu Leu Gln Leu Val Ile Ile Ile Ile Asn Ile Gly Ile Leu Asp Met
20 25 30
Ala Ser Leu Gly Pro Leu Arg Glu Thr Tyr Leu Met Cys Leu Ser Pro
35 40 45

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Leu Met Ala Asn Leu Ala Pro His Leu Leu Leu Ile Val Ile Gly His
50 55 60

<210> 7283
<211> 195
<212> DNA
<213> SARS coronavirus

<400> 7283
atgatttcacat gggttgtgtc cttgcttgga atactaggaa cattgatgct acttcaactg 60
gtaattataa ttataaatat aggtatccta gacatggcaa gcttaggccc tttgagagag 120
acatatctaa tgtgcctttc tcccctgatg gcaaaccctg caccacacct gctcttaatt 180
gttattggcc attaa 195

<210> 7284
<211> 48
<212> PRT
<213> SARS coronavirus

<400> 7284
Met Leu His Leu Lys Leu Leu Phe Tyr Ile Lys Met Leu Thr Ala Leu
1 5 10 15
Met Phe Leu Gln Gln Phe Met Gln Ile Asn Ser His Gln Leu Gly Ala
20 25 30
Tyr Ile Leu Leu Glu Thr Met Tyr Ser Arg Leu Lys Gln Ala Val Leu
35 40 45

<210> 7285
<211> 147
<212> DNA
<213> SARS coronavirus

<400> 7285
atgcttcacat tgaagttgct gttctatatc aagatgttaa ctgcactgat gtttctacag 60
caattcatgc agatcaactc acaccagctt ggcgcataata ttctactgga aacaatgtat 120
tccagactca agcaggctgt cttatag 147

<210> 7286
<211> 52
<212> PRT
<213> SARS coronavirus

<400> 7286
Met Ala Leu Glu Leu Pro Lys Met Phe Ser Met Arg Thr Lys Asn Lys
1 5 10 15
Ser Pro Thr Asn Leu Thr Arg Arg Leu Val Lys Phe Lys Asn His Leu
20 25 30
Gln Gln His Gln Leu His Trp Ala Ser Cys Lys Thr Leu Leu Thr Arg
35 40 45
Met Leu Lys His
50

<210> 7287
<211> 159
<212> DNA
<213> SARS coronavirus

SEQLIST-20480.TXT

<400> 7287
atggcattgg agttacccaa aatgttctct atgagaacca aaaacaaatc gccaaccaat 60
ttaacaaggc gattagtcaa attcaagaat cacttacaac aacatcaact gcattgggca 120
agctgcaaga cgttgtaac cagaatgctc aagcattaa 159

<210> 7288
<211> 56
<212> PRT
<213> SARS coronavirus

<400> 7288
Met Val Leu Ser Ser Tyr Met Ser Arg Met Cys His Pro Arg Arg Gly
1 5 10 15
Thr Ser Pro Gln Arg Gln Gln Phe Val Met Lys Ala Lys His Thr Ser
20 25 30
Leu Val Lys Val Phe Leu Cys Leu Met Ala Leu Leu Gly Leu Leu His
35 40 45
Arg Gly Thr Ser Phe Leu His Lys
50 55

<210> 7289
<211> 171
<212> DNA
<213> SARS coronavirus

<400> 7289
atgggtgtgtg cttcctacat gtcacgtatg tgccatccca ggagaggaac ttcaccacag 60
cgccagcaat ttgtcatgaa ggcaaagcat acttccctcg tgaagggtgtt tttgtgttta 120
atggcacttc ttggtttatt acacagagga acttcttttc tccacaaata a 171

<210> 7290
<211> 66
<212> PRT
<213> SARS coronavirus

<400> 7290
Met Ser Leu Leu Ala Ser Leu Thr Thr Gln Phe Met Ile Leu Cys Asn
1 5 10 15
Leu Ser Leu Thr His Ser Lys Lys Ser Trp Thr Ser Thr Ser Lys Ile
20 25 30
Ile His His Gln Met Leu Ile Leu Ala Thr Phe Gln Ala Leu Thr Leu
35 40 45
Leu Ser Ser Thr Phe Lys Lys Lys Leu Thr Ala Ser Met Arg Ser Leu
50 55 60
Lys Ile
65

<210> 7291
<211> 201
<212> DNA
<213> SARS coronavirus

<400> 7291
atgtcggttat tggcatcatt aacaacacag tttatgatcc tctgcaacct gagcttgact 60
cattcaaaga agagctggac aagtacttca aaaatcatatc atcaccagat gttgattttg 120

SEQLIST-20480.TXT

gcgacatttc aggcattaac gcttctgtcg tcaacattca aaaagaaatt gaccgcctca	180
atgaggtcgc taaaaattta a	201
<210> 7292	
<211> 10	
<212> DNA	
<213> SARS coronavirus	
<400> 7292	
ctaaacgaac	10
<210> 7293	
<211> 6	
<212> DNA	
<213> SARS coronavirus	
<400> 7293	
acgaac	6
<210> 7294	
<211> 72	
<212> DNA	
<213> SARS coronavirus	
<400> 7294	
ttattaggtt ttacctacc caggaaaagc caaccaacct cgatctcttg tagatctggt	60
ctctaaacga ac	72
<210> 7295	
<211> 60	
<212> DNA	
<213> SARS coronavirus	
<400> 7295	
tacctacca ggaaaagcca accaacctcg atctcttgta gatctgttct ctaaacgaac	60
<210> 7296	
<211> 50	
<212> DNA	
<213> SARS coronavirus	
<400> 7296	
ggaaaagcca accaacctcg atctcttgta gatctgttct ctaaacgaac	50
<210> 7297	
<211> 40	
<212> DNA	
<213> SARS coronavirus	
<400> 7297	
accaacctcg atctcttgta gatctgttct ctaaacgaac	40
<210> 7298	
<211> 30	
<212> DNA	
<213> SARS coronavirus	
<400> 7298	
atctcttgta gatctgttct ctaaacgaac	30
<210> 7299	
<211> 20	
<212> DNA	

<213> SARS coronavirus

<400> 7299

gatctgttct ctaaacgaac

20

<210> 7300

<211> 15

<212> DNA

<213> SARS coronavirus

<400> 7300

gttctctaaa cgaac

15

<210> 7301

<211> 13

<212> DNA

<213> SARS coronavirus

<400> 7301

tctctaaacg aac

13

<210> 7302

<211> 680

<212> PRT

<213> Fusion polypeptide (SARS coronavirus & Neisseria meningitidis)

<400> 7302

Met Lys His Phe Pro Ser Lys Val Leu Thr Thr Ala Ile Leu Ala Thr
1 5 10 15

Phe Cys Ser Gly Ala Leu Ala Ala Thr Asn Asp Asp Asp Ser Asp Leu
20 25 30

Asp Arg Cys Thr Thr Phe Asp Asp Val Gln Ala Pro Asn Tyr Thr Gln
35 40 45

His Thr Ser Ser Met Arg Gly Val Tyr Tyr Pro Asp Glu Ile Phe Arg
50 55 60

Ser Asp Thr Leu Tyr Leu Thr Gln Asp Leu Phe Leu Pro Phe Tyr Ser
65 70 75 80

Asn Val Thr Gly Phe His Thr Ile Asn His Thr Phe Gly Asn Pro Val
85 90 95

Ile Pro Phe Lys Asp Gly Ile Tyr Phe Ala Ala Thr Glu Lys Ser Asn
100 105 110

Val Val Arg Gly Trp Val Phe Gly Ser Thr Met Asn Asn Lys Ser Gln
115 120 125

Ser Val Ile Ile Ile Asn Asn Ser Thr Asn Val Val Ile Arg Ala Cys
130 135 140

Asn Phe Glu Leu Cys Asp Asn Pro Phe Phe Ala Val Ser Lys Pro Met
145 150 155 160

Gly Thr Gln Thr His Thr Met Ile Phe Asp Asn Ala Phe Asn Cys Thr
165 170 175

Phe Glu Tyr Ile Ser Asp Ala Phe Ser Leu Asp Val Ser Glu Lys Ser
180 185 190

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Gly Asn Phe Lys His Leu Arg Glu Phe Val Phe Lys Asn Lys Asp Gly
195 200 205
Phe Leu Tyr Val Tyr Lys Gly Tyr Gln Pro Ile Asp Val Val Arg Asp
210 215 220
Leu Pro Ser Gly Phe Asn Thr Leu Lys Pro Ile Phe Lys Leu Pro Leu
225 230 235 240
Gly Ile Asn Ile Thr Asn Phe Arg Ala Ile Leu Thr Ala Phe Ser Pro
245 250 255
Ala Gln Asp Ile Trp Gly Thr Ser Ala Ala Ala Tyr Phe Val Gly Tyr
260 265 270
Leu Lys Pro Thr Thr Phe Met Leu Lys Tyr Asp Glu Asn Gly Thr Ile
275 280 285
Thr Asp Ala Val Asp Cys Ser Gln Asn Pro Leu Ala Glu Leu Lys Cys
290 295 300
Ser Val Lys Ser Phe Glu Ile Asp Lys Gly Ile Tyr Gln Thr Ser Asn
305 310 315 320
Phe Arg Val Val Pro Ser Gly Asp Val Val Arg Phe Pro Asn Ile Thr
325 330 335
Asn Leu Cys Pro Phe Gly Glu Val Phe Asn Ala Thr Lys Phe Pro Ser
340 345 350
Val Tyr Ala Trp Glu Arg Lys Lys Ile Ser Asn Cys Val Ala Asp Tyr
355 360 365
Ser Val Leu Tyr Asn Ser Thr Phe Phe Ser Thr Phe Lys Cys Tyr Gly
370 375 380
Val Ser Ala Thr Lys Leu Asn Asp Leu Cys Phe Ser Asn Val Tyr Ala
385 390 395 400
Asp Ser Phe Val Val Lys Gly Asp Asp Val Arg Gln Ile Ala Pro Gly
405 410 415
Gln Thr Gly Val Ile Ala Asp Tyr Asn Tyr Lys Leu Pro Asp Asp Phe
420 425 430
Met Gly Cys Val Leu Ala Trp Asn Thr Arg Asn Ile Asp Ala Thr Ser
435 440 445
Thr Gly Asn Tyr Asn Tyr Lys Tyr Arg Tyr Leu Arg His Gly Lys Leu
450 455 460
Arg Pro Phe Glu Arg Asp Ile Ser Asn Val Pro Phe Ser Pro Asp Gly
465 470 475 480
Lys Pro Cys Thr Pro Pro Ala Leu Asn Cys Tyr Trp Pro Leu Asn Asp
485 490 495
Tyr Gly Phe Tyr Thr Thr Thr Gly Ile Gly Tyr Gln Pro Tyr Arg Val
500 505 510
Val Val Leu Ser Phe Glu Leu Leu Asn Ala Pro Ala Thr Val Cys Gly
515 520 525

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Pro Lys Leu Ser Thr Asp Leu Ile Lys Asn Gln Cys Val Asn Phe Asn
530 535 540

Phe Asn Gly Leu Thr Gly Thr Gly Val Leu Thr Pro Ser Ser Lys Arg
545 550 555

Phe Gln Pro Phe Gln Gln Phe Gly Arg Asp Val Ser Asp Phe Thr Asp
565 570 575

Ser Val Arg Asp Pro Lys Thr Ser Glu Ile Leu Asp Ile Ser Pro Cys
580 585 590

Ser Phe Gly Gly Val Ser Val Ile Thr Pro Gly Thr Asn Ala Ser Ser
595 600 605

Glu Val Ala Val Leu Tyr Gln Asp Val Asn Cys Thr Asp Val Ser Thr
610 615 620

Ala Ile His Ala Asp Gln Leu Thr Pro Ala Trp Arg Ile Tyr Ser Thr
625 630 635 640

Gly Asn Asn Val Phe Gln Thr Gln Ala Gly Cys Leu Ile Gly Ala Glu
645 650 655

His Val Asp Thr Ser Tyr Glu Cys Asp Ile Pro Ile Gly Ala Gly Ile
660 665 670

Cys Ala Ser Tyr His Thr Gly Ser
675 680

<210> 7303
<211> 998
<212> PRT
<213> Fusion polypeptide (SARS coronavirus & Neisseria meningitidis)

<400> 7303
Met Lys His Phe Pro Ser Lys Val Leu Thr Thr Ala Ile Leu Ala Thr
1 5 10 15

Phe Cys Ser Gly Ala Leu Ala Ala Thr Asn Asp Asp Asp Ser Asp Leu
20 25 30

Asp Arg Cys Thr Thr Phe Asp Asp Val Gln Ala Pro Asn Tyr Thr Gln
35 40 45

His Thr Ser Ser Met Arg Gly Val Tyr Tyr Pro Asp Glu Ile Phe Arg
50 55 60

Ser Asp Thr Leu Tyr Leu Thr Gln Asp Leu Phe Leu Pro Phe Tyr Ser
65 70 75 80

Asn Val Thr Gly Phe His Thr Ile Asn His Thr Phe Gly Asn Pro Val
85 90 95

Ile Pro Phe Lys Asp Gly Ile Tyr Phe Ala Ala Thr Glu Lys Ser Asn
100 105 110

Val Val Arg Gly Trp Val Phe Gly Ser Thr Met Asn Asn Lys Ser Gln
115 120 125

Ser Val Ile Ile Ile Asn Asn Ser Thr Asn Val Val Ile Arg Ala Cys
130 135 140

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Asn 145	Phe	Glu	Leu	Cys	Asp 150	Asn	Pro	Phe	Phe	Ala 155	Val	Ser	Lys	Pro	Met 160
Gly	Thr	Gln	Thr	His 165	Thr	Met	Ile	Phe	Asp 170	Asn	Ala	Phe	Asn	Cys 175	Thr
Phe	Glu	Tyr	Ile 180	Ser	Asp	Ala	Phe	Ser 185	Leu	Asp	Val	Ser	Glu 190	Lys	Ser
Gly	Asn	Phe 195	Lys	His	Leu	Arg	Glu 200	Phe	Val	Phe	Lys	Asn 205	Lys	Asp	Gly
Phe	Leu 210	Tyr	Val	Tyr	Lys	Gly 215	Tyr	Gln	Pro	Ile	Asp 220	Val	Val	Arg	Asp
Leu 225	Pro	Ser	Gly	Phe	Asn 230	Thr	Leu	Lys	Pro	Ile 235	Phe	Lys	Leu	Pro	Leu 240
Gly	Ile	Asn	Ile	Thr 245	Asn	Phe	Arg	Ala	Ile 250	Leu	Thr	Ala	Phe	Ser 255	Pro
Ala	Gln	Asp	Ile 260	Trp	Gly	Thr	Ser	Ala 265	Ala	Ala	Tyr	Phe	Val 270	Gly	Tyr
Leu	Lys	Pro 275	Thr	Thr	Phe	Met	Leu 280	Lys	Tyr	Asp	Glu	Asn 285	Gly	Thr	Ile
Thr	Asp 290	Ala	Val	Asp	Cys	Ser 295	Gln	Asn	Pro	Leu	Ala 300	Glu	Leu	Lys	Cys
Ser 305	Val	Lys	Ser	Phe	Glu 310	Ile	Asp	Lys	Gly	Ile 315	Tyr	Gln	Thr	Ser	Asn 320
Phe	Arg	Val	Val	Pro 325	Ser	Gly	Asp	Val	Val 330	Arg	Phe	Pro	Asn	Ile 335	Thr
Asn	Leu	Cys	Pro 340	Phe	Gly	Glu	Val	Phe 345	Asn	Ala	Thr	Lys	Phe 350	Pro	Ser
Val	Tyr	Ala 355	Trp	Glu	Arg	Lys	Lys 360	Ile	Ser	Asn	Cys	Val 365	Ala	Asp	Tyr
Ser	Val 370	Leu	Tyr	Asn	Ser	Thr 375	Phe	Phe	Ser	Thr	Phe 380	Lys	Cys	Tyr	Gly
Val 385	Ser	Ala	Thr	Lys	Leu 390	Asn	Asp	Leu	Cys	Phe 395	Ser	Asn	Val	Tyr	Ala 400
Asp	Ser	Phe	Val	Val 405	Lys	Gly	Asp	Asp	Val 410	Arg	Gln	Ile	Ala	Pro 415	Gly
Gln	Thr	Gly	Val 420	Ile	Ala	Asp	Tyr	Asn 425	Tyr	Lys	Leu	Pro	Asp 430	Asp	Phe
Met	Gly	Cys 435	Val	Leu	Ala	Trp	Asn 440	Thr	Arg	Asn	Ile	Asp 445	Ala	Thr	Ser
Thr	Gly 450	Asn	Tyr	Asn	Tyr	Lys 455	Tyr	Arg	Tyr	Leu	Arg 460	His	Gly	Lys	Leu
Arg 465	Pro	Phe	Glu	Arg	Asp 470	Ile	Ser	Asn	Val	Pro 475	Phe	Ser	Pro	Asp	Gly 480

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Lys Pro Cys Thr Pro 485 Pro Ala Leu Asn Cys 490 Tyr Trp Pro Leu Asn 495 Asp
 Tyr Gly Phe Tyr 500 Thr Thr Thr Gly Ile 505 Gly Tyr Gln Pro Tyr 510 Arg Val
 Val Val Leu 515 Ser Phe Glu Leu Leu 520 Asn Ala Pro Ala Thr 525 Val Cys Gly
 Pro Lys 530 Leu Ser Thr Asp Leu 535 Ile Lys Asn Gln Cys 540 Val Asn Phe Asn
 Phe 545 Asn Gly Leu Thr Gly 550 Thr Gly Val Leu Thr 555 Pro Ser Ser Lys Arg 560
 Phe Gln Pro Phe 565 Gln Gln Phe Gly Arg Asp 570 Val Ser Asp Phe Thr 575 Asp
 Ser Val Arg Asp 580 Pro Lys Thr Ser Glu 585 Ile Leu Asp Ile Ser 590 Pro Cys
 Ser Phe Gly 595 Gly Val Ser Val Ile Thr 600 Pro Gly Thr Asn 605 Ala Ser Ser
 Glu Val 610 Ala Val Leu Tyr Gln 615 Asp Val Asn Cys Thr 620 Asp Val Ser Thr
 Ala 625 Ile His Ala Asp Gln 630 Leu Thr Pro Ala Trp 635 Arg Ile Tyr Ser Thr 640
 Gly Asn Asn Val Phe 645 Gln Thr Gln Ala Gly 650 Cys Leu Ile Gly Ala 655 Glu
 His Val Asp Thr 660 Ser Tyr Glu Cys Asp 665 Ile Pro Ile Gly Ala 670 Gly Ile
 Cys Ala Ser 675 Tyr His Thr Gly Ser 680 Lys Val Val Thr Asn 685 Leu Thr Lys
 Thr Val 690 Asn Glu Asn Lys Gln 695 Asn Val Asp Ala Lys 700 Val Lys Ala Ala
 Glu 705 Ser Glu Ile Glu Lys 710 Leu Thr Thr Lys Leu 715 Ala Asp Thr Asp Ala 720
 Ala Leu Ala Asp Thr 725 Asp Ala Ala Leu Asp 730 Ala Thr Thr Asn Ala 735 Leu
 Asn Lys Leu Gly 740 Glu Asn Ile Thr Thr 745 Phe Ala Glu Glu Thr 750 Lys Thr
 Asn Ile Val 755 Lys Ile Asp Glu Lys 760 Leu Glu Ala Val Ala 765 Asp Thr Val
 Asp Lys 770 His Ala Glu Ala Phe 775 Asn Asp Ile Ala Asp 780 Ser Leu Asp Glu
 Thr 785 Asn Thr Lys Ala Asp 790 Glu Ala Val Lys Thr 795 Ala Asn Glu Ala Lys 800
 Gln Thr Ala Glu Glu 805 Thr Lys Gln Asn Val 810 Asp Ala Lys Val Lys 815 Ala

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Ala Glu Thr Ala Ala Gly Lys Ala Glu Ala Ala Ala Gly Thr Ala Asn
820 825 830

Thr Ala Ala Asp Lys Ala Glu Ala Val Ala Ala Lys Val Thr Asp Ile
835 840 845

Lys Ala Asp Ile Ala Thr Asn Lys Asp Asn Ile Ala Lys Lys Ala Asn
850 855 860

Ser Ala Asp Val Tyr Thr Arg Glu Glu Ser Asp Ser Lys Phe Val Arg
865 870 875 880

Ile Asp Gly Leu Asn Ala Thr Thr Glu Lys Leu Asp Thr Arg Leu Ala
885 890 895

Ser Ala Glu Lys Ser Ile Ala Asp His Asp Thr Arg Leu Asn Gly Leu
900 905 910

Asp Lys Thr Val Ser Asp Leu Arg Lys Glu Thr Arg Gln Gly Leu Ala
915 920 925

Glu Gln Ala Ala Leu Ser Gly Leu Phe Gln Pro Tyr Asn Val Gly Arg
930 935 940

Phe Asn Val Thr Ala Ala Val Gly Gly Tyr Lys Ser Glu Ser Ala Val
945 950 955 960

Ala Ile Gly Thr Gly Phe Arg Phe Thr Glu Asn Phe Ala Ala Lys Ala
965 970 975

Gly Val Ala Val Gly Thr Ser Ser Gly Ser Ser Ala Ala Tyr His Val
980 985 990

Gly val Asn Tyr Glu Trp
995

<210> 7304
<211> 943
<212> PRT
<213> Fusion polypeptide (SARS coronavirus & Neisseria meningitidis)

<400> 7304
Met Lys His Phe Pro Ser Lys Val Leu Thr Thr Ala Ile Leu Ala Thr
1 5 10 15

Phe Cys Ser Gly Ala Leu Ala Ala Thr Asn Asp Asp Asp Ser Asp Leu
20 25 30

Asp Arg Cys Thr Thr Phe Asp Asp Val Gln Ala Pro Asn Tyr Thr Gln
35 40 45

His Thr Ser Ser Met Arg Gly Val Tyr Tyr Pro Asp Glu Ile Phe Arg
50 55 60

Ser Asp Thr Leu Tyr Leu Thr Gln Asp Leu Phe Leu Pro Phe Tyr Ser
65 70 75 80

Asn Val Thr Gly Phe His Thr Ile Asn His Thr Phe Gly Asn Pro Val
85 90 95

Ile Pro Phe Lys Asp Gly Ile Tyr Phe Ala Ala Thr Glu Lys Ser Asn
100 105 110

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Val Val Arg Gly Trp Val Phe Gly Ser Thr Met Asn Asn Lys Ser Gln
 115 120 125
 Ser Val Ile Ile Ile Asn Asn Ser Thr Asn Val Val Ile Arg Ala Cys
 130 135 140
 Asn Phe Glu Leu Cys Asp Asn Pro Phe Phe Ala Val Ser Lys Pro Met
 145 150 155 160
 Gly Thr Gln Thr His Thr Met Ile Phe Asp Asn Ala Phe Asn Cys Thr
 165 170 175
 Phe Glu Tyr Ile Ser Asp Ala Phe Ser Leu Asp Val Ser Glu Lys Ser
 180 185 190
 Gly Asn Phe Lys His Leu Arg Glu Phe Val Phe Lys Asn Lys Asp Gly
 195 200 205
 Phe Leu Tyr Val Tyr Lys Gly Tyr Gln Pro Ile Asp Val Val Arg Asp
 210 215 220
 Leu Pro Ser Gly Phe Asn Thr Leu Lys Pro Ile Phe Lys Leu Pro Leu
 225 230 235 240
 Gly Ile Asn Ile Thr Asn Phe Arg Ala Ile Leu Thr Ala Phe Ser Pro
 245 250 255
 Ala Gln Asp Ile Trp Gly Thr Ser Ala Ala Ala Tyr Phe Val Gly Tyr
 260 265 270
 Leu Lys Pro Thr Thr Phe Met Leu Lys Tyr Asp Glu Asn Gly Thr Ile
 275 280 285
 Thr Asp Ala Val Asp Cys Ser Gln Asn Pro Leu Ala Glu Leu Lys Cys
 290 295 300
 Ser Val Lys Ser Phe Glu Ile Asp Lys Gly Ile Tyr Gln Thr Ser Asn
 305 310 315 320
 Phe Arg Val Val Pro Ser Gly Asp Val Val Arg Phe Pro Asn Ile Thr
 325 330 335
 Asn Leu Cys Pro Phe Gly Glu Val Phe Asn Ala Thr Lys Phe Pro Ser
 340 345 350
 Val Tyr Ala Trp Glu Arg Lys Lys Ile Ser Asn Cys Val Ala Asp Tyr
 355 360 365
 Ser Val Leu Tyr Asn Ser Thr Phe Phe Ser Thr Phe Lys Cys Tyr Gly
 370 375 380
 Val Ser Ala Thr Lys Leu Asn Asp Leu Cys Phe Ser Asn Val Tyr Ala
 385 390 395 400
 Asp Ser Phe Val Val Lys Gly Asp Asp Val Arg Gln Ile Ala Pro Gly
 405 410 415
 Gln Thr Gly Val Ile Ala Asp Tyr Asn Tyr Lys Leu Pro Asp Asp Phe
 420 425 430
 Met Gly Cys Val Leu Ala Trp Asn Thr Arg Asn Ile Asp Ala Thr Ser
 435 440 445

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Thr	Gly	Asn	Tyr	Asn	Tyr	Lys	Tyr	Arg	Tyr	Leu	Arg	His	Gly	Lys	Leu
	450					455					460				
Arg	Pro	Phe	Glu	Arg	Asp	Ile	Ser	Asn	Val	Pro	Phe	Ser	Pro	Asp	Gly
465					470					475					480
Lys	Pro	Cys	Thr	Pro	Pro	Ala	Leu	Asn	Cys	Tyr	Trp	Pro	Leu	Asn	Asp
				485					490					495	
Tyr	Gly	Phe	Tyr	Thr	Thr	Thr	Gly	Ile	Gly	Tyr	Gln	Pro	Tyr	Arg	Val
			500					505					510		
Val	Val	Leu	Ser	Phe	Glu	Leu	Leu	Asn	Ala	Pro	Ala	Thr	Val	Cys	Gly
		515					520					525			
Pro	Lys	Leu	Ser	Thr	Asp	Leu	Ile	Lys	Asn	Gln	Cys	Val	Asn	Phe	Asn
	530					535					540				
Phe	Asn	Gly	Leu	Thr	Gly	Thr	Gly	Val	Leu	Thr	Pro	Ser	Ser	Lys	Arg
545					550					555					560
Phe	Gln	Pro	Phe	Gln	Gln	Phe	Gly	Arg	Asp	Val	Ser	Asp	Phe	Thr	Asp
				565					570					575	
Ser	Val	Arg	Asp	Pro	Lys	Thr	Ser	Glu	Ile	Leu	Asp	Ile	Ser	Pro	Cys
			580					585					590		
Ser	Phe	Gly	Gly	Val	Ser	Val	Ile	Thr	Pro	Gly	Thr	Asn	Ala	Ser	Ser
		595					600					605			
Glu	Val	Ala	Val	Leu	Tyr	Gln	Asp	Val	Asn	Cys	Thr	Asp	Val	Ser	Thr
	610					615					620				
Ala	Ile	His	Ala	Asp	Gln	Leu	Thr	Pro	Ala	Trp	Arg	Ile	Tyr	Ser	Thr
625					630					635					640
Gly	Asn	Asn	Val	Phe	Gln	Thr	Gln	Ala	Gly	Cys	Leu	Ile	Gly	Ala	Glu
				645					650					655	
His	Val	Asp	Thr	Ser	Tyr	Glu	Cys	Asp	Ile	Pro	Ile	Gly	Ala	Gly	Ile
			660					665				670			
Cys	Ala	Ser	Tyr	His	Thr	Gly	Ser	Lys	Val	Val	Thr	Asn	Leu	Thr	Lys
		675					680					685			
Thr	Val	Asn	Glu	Asn	Lys	Gln	Asn	Val	Asp	Ala	Lys	Val	Lys	Ala	Ala
	690					695					700				
Glu	Ser	Glu	Ile	Glu	Lys	Leu	Thr	Thr	Lys	Leu	Ala	Asp	Thr	Asp	Ala
705					710					715					720
Ala	Leu	Ala	Asp	Thr	Asp	Ala	Ala	Leu	Asp	Ala	Thr	Thr	Asn	Ala	Leu
				725					730					735	
Asn	Lys	Leu	Gly	Glu	Asn	Ile	Thr	Thr	Phe	Ala	Glu	Glu	Thr	Lys	Thr
			740					745					750		
Asn	Ile	Val	Lys	Ile	Asp	Glu	Lys	Leu	Glu	Ala	Val	Ala	Asp	Thr	Val
		755					760					765			
Asp	Lys	His	Ala	Glu	Ala	Phe	Asn	Asp	Ile	Ala	Asp	Ser	Leu	Asp	Glu
	770					775					780				

SEQLIST-20480.TXT

Thr 785 Asn Thr Lys Ala Asp 790 Glu Ala Val Lys 795 Thr Ala Asn Glu Ala Lys 800
 Gln Thr Ala Glu 805 Glu Thr Lys Gln Asn Val 810 Asp Ala Lys Val Lys 815 Ala
 Ala Glu Thr Ala 820 Ala Gly Lys Ala Glu 825 Ala Ala Ala Gly Thr 830 Ala Asn
 Thr Ala Ala 835 Asp Lys Ala Glu Ala Val 840 Ala Ala Lys Val 845 Thr Asp Ile
 Lys Ala 850 Asp Ile Ala Thr Asn 855 Lys Asp Asn Ile Ala 860 Lys Lys Ala Asn
 Ser Ala Asp Val Tyr 870 Arg Glu Glu Ser Asp 875 Ser Lys Phe Val Arg 880
 Ile Asp Gly Leu Asn 885 Ala Thr Thr Glu Lys 890 Leu Asp Thr Arg Leu Ala 895
 Ser Ala Glu Lys 900 Ser Ile Ala Asp His 905 Asp Thr Arg Leu Asn 910 Gly Leu
 Asp Lys Thr Val 915 Ser Asp Leu Arg 920 Lys Glu Thr Arg Gln 925 Gly Leu Ala
 Glu Gln 930 Ala Ala Leu Ser Gly 935 Leu Phe Gln Pro Tyr 940 Asn Val Gly
 <210> 7305
 <211> 1270
 <212> PRT
 <213> Fusion polypeptide (SARS coronavirus & Neisseria meningitidis)
 <400> 7305
 Met Lys His Phe Pro Ser Lys Val Leu Thr Thr Ala Ile Leu Ala Thr
 1 5 10 15
 Phe Cys Ser Gly 20 Ala Leu Ala Ala Thr 25 Asn Asp Asp Asp Ser 30 Asp Leu
 Asp Arg Cys 35 Thr Thr Phe Asp Asp 40 Val Gln Ala Pro Asn 45 Tyr Thr Gln
 His Thr 50 Ser Ser Met Arg Gly 55 Val Tyr Tyr Pro Asp 60 Glu Ile Phe Arg
 Ser Asp Thr Leu Tyr 70 Leu Thr Gln Asp Leu Phe 75 Leu Pro Phe Tyr Ser 80
 Asn Val Thr Gly 85 Phe His Thr Ile Asn 90 His Thr Phe Gly Asn 95 Pro Val
 Ile Pro Phe Lys 100 Asp Gly Ile Tyr Phe 105 Ala Ala Thr Glu Lys 110 Ser Asn
 Val Val Arg 115 Gly Trp Val Phe Gly 120 Ser Thr Met Asn Asn 125 Lys Ser Gln
 Ser Val 130 Ile Ile Ile Asn Asn 135 Ser Thr Asn Val Val 140 Ile Arg Ala Cys

SEQLIST-20480.TXT

Asn Phe Glu Leu Cys Asp Asn Pro Phe Phe Ala Val Ser Lys Pro Met
 145 150 155 160
 Gly Thr Gln Thr His Thr Met Ile Phe Asp Asn Ala Phe Asn Cys Thr
 165 170 175
 Phe Glu Tyr Ile Ser Asp Ala Phe Ser Leu Asp Val Ser Glu Lys Ser
 180 185 190
 Gly Asn Phe Lys His Leu Arg Glu Phe Val Phe Lys Asn Lys Asp Gly
 195 200 205
 Phe Leu Tyr Val Tyr Lys Gly Tyr Gln Pro Ile Asp Val Val Arg Asp
 210 215 220
 Leu Pro Ser Gly Phe Asn Thr Leu Lys Pro Ile Phe Lys Leu Pro Leu
 225 230 235 240
 Gly Ile Asn Ile Thr Asn Phe Arg Ala Ile Leu Thr Ala Phe Ser Pro
 245 250 255
 Ala Gln Asp Ile Trp Gly Thr Ser Ala Ala Ala Tyr Phe Val Gly Tyr
 260 265 270
 Leu Lys Pro Thr Thr Phe Met Leu Lys Tyr Asp Glu Asn Gly Thr Ile
 275 280 285
 Thr Asp Ala Val Asp Cys Ser Gln Asn Pro Leu Ala Glu Leu Lys Cys
 290 295 300
 Ser Val Lys Ser Phe Glu Ile Asp Lys Gly Ile Tyr Gln Thr Ser Asn
 305 310 315 320
 Phe Arg Val Val Pro Ser Gly Asp Val Val Arg Phe Pro Asn Ile Thr
 325 330 335
 Asn Leu Cys Pro Phe Gly Glu Val Phe Asn Ala Thr Lys Phe Pro Ser
 340 345 350
 Val Tyr Ala Trp Glu Arg Lys Lys Ile Ser Asn Cys Val Ala Asp Tyr
 355 360 365
 Ser Val Leu Tyr Asn Ser Thr Phe Phe Ser Thr Phe Lys Cys Tyr Gly
 370 375 380
 Val Ser Ala Thr Lys Leu Asn Asp Leu Cys Phe Ser Asn Val Tyr Ala
 385 390 395 400
 Asp Ser Phe Val Val Lys Gly Asp Asp Val Arg Gln Ile Ala Pro Gly
 405 410 415
 Gln Thr Gly Val Ile Ala Asp Tyr Asn Tyr Lys Leu Pro Asp Phe
 420 425 430
 Met Gly Cys Val Leu Ala Trp Asn Thr Arg Asn Ile Asp Ala Thr Ser
 435 440 445
 Thr Gly Asn Tyr Asn Tyr Lys Tyr Arg Tyr Leu Arg His Gly Lys Leu
 450 455 460
 Arg Pro Phe Glu Arg Asp Ile Ser Asn Val Pro Phe Ser Pro Asp Gly
 465 470 475 480

SEQLIST-20480.TXT

Lys Pro Cys Thr Pro 485 Pro Ala Leu Asn Cys 490 Tyr Trp Pro Leu Asn Asp 495
 Tyr Gly Phe Tyr 500 Thr Thr Thr Gly Ile 505 Gly Tyr Gln Pro Tyr 510 Arg Val
 Val Val Leu 515 Ser Phe Glu Leu Leu 520 Asn Ala Pro Ala Thr 525 Val Cys Gly
 Pro Lys 530 Leu Ser Thr Asp Leu 535 Ile Lys Asn Gln Cys 540 Val Asn Phe Asn
 Phe 545 Asn Gly Leu Thr Gly 550 Thr Gly Val Leu Thr 555 Pro Ser Ser Lys Arg 560
 Phe Gln Pro Phe 565 Gln Gln Phe Gly Arg Asp 570 Val Ser Asp Phe Thr 575 Asp
 Ser Val Arg Asp 580 Pro Lys Thr Ser Glu 585 Ile Leu Asp Ile Ser 590 Pro Cys
 Ser Phe Gly 595 Gly Val Ser Val Ile 600 Thr Pro Gly Thr Asn 605 Ala Ser Ser
 Glu Val 610 Ala Val Leu Tyr Gln 615 Asp Val Asn Cys Thr 620 Asp Val Ser Thr
 Ala 625 Ile His Ala Asp Gln 630 Leu Thr Pro Ala Trp 635 Arg Ile Tyr Ser Thr 640
 Gly Asn Asn Val Phe 645 Gln Thr Gln Ala Gly 650 Cys Leu Ile Gly Ala 655 Glu
 His Val Asp Thr 660 Ser Tyr Glu Cys Asp 665 Ile Pro Ile Gly Ala 670 Gly Ile
 Cys Ala Ser 675 Tyr His Thr Gly Ser 680 Val Ser Leu Leu Arg 685 Ser Thr Ser
 Gln Lys 690 Ser Ile Val Ala Tyr 695 Thr Met Ser Leu Gly 700 Ala Asp Ser Ser
 Ile 705 Ala Tyr Ser Asn Asn 710 Thr Ile Ala Ile Pro 715 Thr Asn Phe Ser Ile 720
 Ser Ile Thr Thr Glu 725 Val Met Pro Val Ser 730 Met Ala Lys Thr Ser Val 735
 Asp Cys Asn Met 740 Tyr Ile Cys Gly Asp 745 Ser Thr Glu Cys Ala 750 Asn Leu
 Leu Leu Gln 755 Tyr Gly Ser Phe Cys 760 Thr Gln Leu Asn Arg 765 Ala Leu Ser
 Gly Ile 770 Ala Ala Glu Gln Asp 775 Arg Asn Thr Arg Glu 780 Val Phe Ala Gln
 Val 785 Lys Gln Met Tyr Lys 790 Thr Pro Thr Leu Lys 795 Tyr Phe Gly Gly Phe 800
 Asn Phe Ser Gln Ile 805 Leu Pro Asp Pro Leu 810 Lys Pro Thr Lys Arg 815 Ser

SEQLIST-20480.TXT

Phe Ile Glu Asp Leu Leu Phe Asn Lys Val Thr Leu Ala Asp Ala Gly
 820 825 830
 Phe Met Lys Gln Tyr Gly Glu Cys Leu Gly Asp Ile Asn Ala Arg Asp
 835 840 845
 Leu Ile Cys Ala Gln Lys Phe Asn Gly Leu Thr Val Leu Pro Pro Leu
 850 855 860
 Leu Thr Asp Asp Met Ile Ala Ala Tyr Thr Ala Ala Leu Val Ser Gly
 865 870 875 880
 Thr Ala Thr Ala Gly Trp Thr Phe Gly Ala Gly Ala Ala Leu Gln Ile
 885 890 895
 Pro Phe Ala Met Gln Met Ala Tyr Arg Phe Asn Gly Ile Gly Val Thr
 900 905 910
 Gln Asn Val Leu Tyr Glu Asn Gln Lys Gln Ile Ala Asn Gln Phe Asn
 915 920 925
 Lys Ala Ile Ser Gln Ile Gln Glu Ser Leu Thr Thr Thr Ser Thr Ala
 930 935 940
 Leu Gly Lys Leu Gln Asp Val Val Asn Gln Asn Ala Gln Ala Leu Asn
 945 950 955 960
 Thr Leu Val Lys Gln Leu Ser Ser Asn Phe Gly Ala Ile Ser Ser Val
 965 970 975
 Leu Asn Asp Ile Leu Ser Arg Leu Asp Lys Val Glu Ala Glu Val Gln
 980 985 990
 Ile Asp Arg Leu Ile Thr Gly Arg Leu Gln Ser Leu Gln Thr Tyr Val
 995 1000 1005
 Thr Gln Gln Leu Ile Arg Ala Ala Glu Ile Arg Ala Ser Ala Asn Leu
 1010 1015 1020
 Ala Ala Thr Lys Met Ser Glu Cys Val Leu Gly Gln Ser Lys Arg Val
 1025 1030 1035 1040
 Asp Phe Cys Gly Lys Gly Tyr His Leu Met Ser Phe Pro Gln Ala Ala
 1045 1050 1055
 Pro His Gly Val Val Phe Leu His Val Thr Tyr Val Pro Ser Gln Glu
 1060 1065 1070
 Arg Asn Phe Thr Thr Ala Pro Ala Ile Cys His Glu Gly Lys Ala Tyr
 1075 1080 1085
 Phe Pro Arg Glu Gly Val Phe Val Phe Asn Gly Thr Ser Trp Phe Ile
 1090 1095 1100
 Thr Gln Arg Asn Phe Phe Ser Pro Gln Ile Ile Thr Thr Asp Asn Thr
 1105 1110 1115 1120
 Phe Val Ser Gly Asn Cys Asp Val Val Ile Gly Ile Ile Asn Asn Thr
 1125 1130 1135
 Val Tyr Asp Pro Leu Gln Pro Glu Leu Asp Ser Phe Lys Glu Glu Leu
 1140 1145 1150

SEQLIST-20480.TXT

Asp Lys Tyr Phe Lys Asn His Thr Ser Pro Asp Val Asp Phe Gly Asp
1155 1160 1165

Ile Ser Gly Ile Asn Ala Ser Val Val Asn Ile Gln Lys Glu Ile Asp
1170 1175 1180

Arg Leu Asn Glu Val Ala Lys Asn Leu Asn Glu Ser Leu Ile Asp Leu
1185 1190 1195 1200

Gln Glu Leu Gly Lys Tyr Glu Gln Tyr Ile Lys Trp Pro Lys Leu Arg
1205 1210 1215

Phe Asn Val Thr Ala Ala Val Gly Gly Tyr Lys Ser Glu Ser Ala Val
1220 1225 1230

Ala Ile Gly Thr Gly Phe Arg Phe Thr Glu Asn Phe Ala Ala Lys Ala
1235 1240 1245

Gly Val Ala Val Gly Thr Ser Ser Gly Ser Ser Ala Ala Tyr His Val
1250 1255 1260

Gly Val Asn Tyr Glu Trp
1265 1270

<210> 7306
<211> 1213
<212> PRT
<213> Fusion polypeptide (SARS coronavirus & Neisseria meningitidis)

<400> 7306
Met Lys His Phe Pro Ser Lys Val Leu Thr Thr Ala Ile Leu Ala Thr
1 5 10 15

Phe Cys Ser Gly Ala Leu Ala Ala Thr Asn Asp Asp Asp Ser Asp Leu
20 25 30

Asp Arg Cys Thr Thr Phe Asp Asp Val Gln Ala Pro Asn Tyr Thr Gln
35 40 45

His Thr Ser Ser Met Arg Gly Val Tyr Tyr Pro Asp Glu Ile Phe Arg
50 55 60

Ser Asp Thr Leu Tyr Leu Thr Gln Asp Leu Phe Leu Pro Phe Tyr Ser
65 70 75 80

Asn Val Thr Gly Phe His Thr Ile Asn His Thr Phe Gly Asn Pro Val
85 90 95

Ile Pro Phe Lys Asp Gly Ile Tyr Phe Ala Ala Thr Glu Lys Ser Asn
100 105 110

Val Val Arg Gly Trp Val Phe Gly Ser Thr Met Asn Asn Lys Ser Gln
115 120 125

Ser Val Ile Ile Ile Asn Asn Ser Thr Asn Val Val Ile Arg Ala Cys
130 135 140

Asn Phe Glu Leu Cys Asp Asn Pro Phe Phe Ala Val Ser Lys Pro Met
145 150 155 160

Gly Thr Gln Thr His Thr Met Ile Phe Asp Asn Ala Phe Asn Cys Thr
165 170 175

SEQLIST-20480.TXT

Phe Glu Tyr Ile Ser Asp Ala Phe Ser Leu Asp Val Ser Glu Lys Ser
 180 185 190
 Gly Asn Phe Lys His Leu Arg Glu Phe Val Phe Lys Asn Lys Asp Gly
 195 200 205
 Phe Leu Tyr Val Tyr Lys Gly Tyr Gln Pro Ile Asp Val Val Arg Asp
 210 215 220
 Leu Pro Ser Gly Phe Asn Thr Leu Lys Pro Ile Phe Lys Leu Pro Leu
 225 230 235 240
 Gly Ile Asn Ile Thr Asn Phe Arg Ala Ile Leu Thr Ala Phe Ser Pro
 245 250 255
 Ala Gln Asp Ile Trp Gly Thr Ser Ala Ala Ala Tyr Phe Val Gly Tyr
 260 265 270
 Leu Lys Pro Thr Thr Phe Met Leu Lys Tyr Asp Glu Asn Gly Thr Ile
 275 280 285
 Thr Asp Ala Val Asp Cys Ser Gln Asn Pro Leu Ala Glu Leu Lys Cys
 290 295 300
 Ser Val Lys Ser Phe Glu Ile Asp Lys Gly Ile Tyr Gln Thr Ser Asn
 305 310 315 320
 Phe Arg Val Val Pro Ser Gly Asp Val Val Arg Phe Pro Asn Ile Thr
 325 330 335
 Asn Leu Cys Pro Phe Gly Glu Val Phe Asn Ala Thr Lys Phe Pro Ser
 340 345 350
 Val Tyr Ala Trp Glu Arg Lys Lys Ile Ser Asn Cys Val Ala Asp Tyr
 355 360 365
 Ser Val Leu Tyr Asn Ser Thr Phe Phe Ser Thr Phe Lys Cys Tyr Gly
 370 375 380
 Val Ser Ala Thr Lys Leu Asn Asp Leu Cys Phe Ser Asn Val Tyr Ala
 385 390 395 400
 Asp Ser Phe Val Val Lys Gly Asp Asp Val Arg Gln Ile Ala Pro Gly
 405 410 415
 Gln Thr Gly Val Ile Ala Asp Tyr Asn Tyr Lys Leu Pro Asp Asp Phe
 420 425 430
 Met Gly Cys Val Leu Ala Trp Asn Thr Arg Asn Ile Asp Ala Thr Ser
 435 440 445
 Thr Gly Asn Tyr Asn Tyr Lys Tyr Arg Tyr Leu Arg His Gly Lys Leu
 450 455 460
 Arg Pro Phe Glu Arg Asp Ile Ser Asn Val Pro Phe Ser Pro Asp Gly
 465 470 475 480
 Lys Pro Cys Thr Pro Pro Ala Leu Asn Cys Tyr Trp Pro Leu Asn Asp
 485 490 495
 Tyr Gly Phe Tyr Thr Thr Thr Gly Ile Gly Tyr Gln Pro Tyr Arg Val
 500 505 510

SEQLIST-20480.TXT

Val	Val	Leu	Ser	Phe	Glu	Leu	Leu	Asn	Ala	Pro	Ala	Thr	Val	Cys	Gly
		515					520					525			
Pro	Lys	Leu	Ser	Thr	Asp	Leu	Ile	Lys	Asn	Gln	Cys	Val	Asn	Phe	Asn
	530					535					540				
Phe	Asn	Gly	Leu	Thr	Gly	Thr	Gly	Val	Leu	Thr	Pro	Ser	Ser	Lys	Arg
545					550					555					560
Phe	Gln	Pro	Phe	Gln	Gln	Phe	Gly	Arg	Asp	Val	Ser	Asp	Phe	Thr	Asp
				565					570					575	
Ser	Val	Arg	Asp	Pro	Lys	Thr	Ser	Glu	Ile	Leu	Asp	Ile	Ser	Pro	Cys
			580					585					590		
Ser	Phe	Gly	Gly	Val	Ser	Val	Ile	Thr	Pro	Gly	Thr	Asn	Ala	Ser	Ser
		595					600					605			
Glu	Val	Ala	Val	Leu	Tyr	Gln	Asp	Val	Asn	Cys	Thr	Asp	Val	Ser	Thr
	610					615					620				
Ala	Ile	His	Ala	Asp	Gln	Leu	Thr	Pro	Ala	Trp	Arg	Ile	Tyr	Ser	Thr
625					630					635					640
Gly	Asn	Asn	Val	Phe	Gln	Thr	Gln	Ala	Gly	Cys	Leu	Ile	Gly	Ala	Glu
				645					650					655	
His	Val	Asp	Thr	Ser	Tyr	Glu	Cys	Asp	Ile	Pro	Ile	Gly	Ala	Gly	Ile
			660					665					670		
Cys	Ala	Ser	Tyr	His	Thr	Gly	Ser	Val	Ser	Leu	Leu	Arg	Ser	Thr	Ser
		675					680					685			
Gln	Lys	Ser	Ile	Val	Ala	Tyr	Thr	Met	Ser	Leu	Gly	Ala	Asp	Ser	Ser
	690					695					700				
Ile	Ala	Tyr	Ser	Asn	Asn	Thr	Ile	Ala	Ile	Pro	Thr	Asn	Phe	Ser	Ile
705					710					715					720
Ser	Ile	Thr	Thr	Glu	Val	Met	Pro	Val	Ser	Met	Ala	Lys	Thr	Ser	Val
				725					730				735		
Asp	Cys	Asn	Met	Tyr	Ile	Cys	Gly	Asp	Ser	Thr	Glu	Cys	Ala	Asn	Leu
			740					745					750		
Leu	Leu	Gln	Tyr	Gly	Ser	Phe	Cys	Thr	Gln	Leu	Asn	Arg	Ala	Leu	Ser
		755					760					765			
Gly	Ile	Ala	Ala	Glu	Gln	Asp	Arg	Asn	Thr	Arg	Glu	Val	Phe	Ala	Gln
	770					775					780				
Val	Lys	Gln	Met	Tyr	Lys	Thr	Pro	Thr	Leu	Lys	Tyr	Phe	Gly	Gly	Phe
785					790					795					800
Asn	Phe	Ser	Gln	Ile	Leu	Pro	Asp	Pro	Leu	Lys	Pro	Thr	Lys	Arg	Ser
				805					810					815	
Phe	Ile	Glu	Asp	Leu	Leu	Phe	Asn	Lys	Val	Thr	Leu	Ala	Asp	Ala	Gly
			820					825					830		
Phe	Met	Lys	Gln	Tyr	Gly	Glu	Cys	Leu	Gly	Asp	Ile	Asn	Ala	Arg	Asp
		835					840					845			

SEQLIST-20480.TXT

Leu Ile Cys Ala Gln Lys Phe Asn Gly Leu Thr Val Leu Pro Pro Leu
 850 855 860
 Leu Thr Asp Asp Met Ile Ala Ala Tyr Thr Ala Ala Leu Val Ser Gly
 865 870 875 880
 Thr Ala Thr Ala Gly Trp Thr Phe Gly Ala Gly Ala Ala Leu Gln Ile
 885 890 895
 Pro Phe Ala Met Gln Met Ala Tyr Arg Phe Asn Gly Ile Gly Val Thr
 900 905 910
 Gln Asn Val Leu Tyr Glu Asn Gln Lys Gln Ile Ala Asn Gln Phe Asn
 915 920 925
 Lys Ala Ile Ser Gln Ile Gln Glu Ser Leu Thr Thr Thr Ser Thr Ala
 930 935 940
 Leu Gly Lys Leu Gln Asp Val Val Asn Gln Asn Ala Gln Ala Leu Asn
 945 950 955 960
 Thr Leu Val Lys Gln Leu Ser Ser Asn Phe Gly Ala Ile Ser Ser Val
 965 970 975
 Leu Asn Asp Ile Leu Ser Arg Leu Asp Lys Val Glu Ala Glu Val Gln
 980 985 990
 Ile Asp Arg Leu Ile Thr Gly Arg Leu Gln Ser Leu Gln Thr Tyr Val
 995 1000 1005
 Thr Gln Gln Leu Ile Arg Ala Ala Glu Ile Arg Ala Ser Ala Asn Leu
 1010 1015 1020
 Ala Ala Thr Lys Met Ser Glu Cys Val Leu Gly Gln Ser Lys Arg Val
 1025 1030 1035 1040
 Asp Phe Cys Gly Lys Gly Tyr His Leu Met Ser Phe Pro Gln Ala Ala
 1045 1050 1055
 Pro His Gly Val Val Phe Leu His Val Thr Tyr Val Pro Ser Gln Glu
 1060 1065 1070
 Arg Asn Phe Thr Thr Ala Pro Ala Ile Cys His Glu Gly Lys Ala Tyr
 1075 1080 1085
 Phe Pro Arg Glu Gly Val Phe Val Phe Asn Gly Thr Ser Trp Phe Ile
 1090 1095 1100
 Thr Gln Arg Asn Phe Phe Ser Pro Gln Ile Ile Thr Thr Asp Asn Thr
 1105 1110 1115 1120
 Phe Val Ser Gly Asn Cys Asp Val Val Ile Gly Ile Ile Asn Asn Thr
 1125 1130 1135
 Val Tyr Asp Pro Leu Gln Pro Glu Leu Asp Ser Phe Lys Glu Glu Leu
 1140 1145 1150
 Asp Lys Tyr Phe Lys Asn His Thr Ser Pro Asp Val Asp Phe Gly Asp
 1155 1160 1165
 Ile Ser Gly Ile Asn Ala Ser Val Val Asn Ile Gln Lys Glu Ile Asp
 1170 1175 1180

SEQLIST-20480.TXT

Arg Leu Asn Glu Val Ala Lys Asn Leu Asn Glu Ser Leu Ile Asp Leu
1185 1190 1195 1200

Gln Glu Leu Gly Lys Tyr Glu Gln Tyr Ile Lys Trp Pro
1205 1210

<210> 7307
<211> 649
<212> PRT
<213> SARS coronavirus

<400> 7307
Ser Asp Leu Asp Arg Cys Thr Thr Phe Asp Asp Val Gln Ala Pro Asn
1 5 10 15

Tyr Thr Gln His Thr Ser Ser Met Arg Gly Val Tyr Tyr Pro Asp Glu
20 25 30

Ile Phe Arg Ser Asp Thr Leu Tyr Leu Thr Gln Asp Leu Phe Leu Pro
35 40 45

Phe Tyr Ser Asn Val Thr Gly Phe His Thr Ile Asn His Thr Phe Gly
50 55 60

Asn Pro Val Ile Pro Phe Lys Asp Gly Ile Tyr Phe Ala Ala Thr Glu
65 70 75 80

Lys Ser Asn Val Val Arg Gly Trp Val Phe Gly Ser Thr Met Asn Asn
85 90 95

Lys Ser Gln Ser Val Ile Ile Ile Asn Asn Ser Thr Asn Val Val Ile
100 105 110

Arg Ala Cys Asn Phe Glu Leu Cys Asp Asn Pro Phe Phe Ala Val Ser
115 120 125

Lys Pro Met Gly Thr Gln Thr His Thr Met Ile Phe Asp Asn Ala Phe
130 135 140

Asn Cys Thr Phe Glu Tyr Ile Ser Asp Ala Phe Ser Leu Asp Val Ser
145 150 155 160

Glu Lys Ser Gly Asn Phe Lys His Leu Arg Glu Phe Val Phe Lys Asn
165 170 175

Lys Asp Gly Phe Leu Tyr Val Tyr Lys Gly Tyr Gln Pro Ile Asp Val
180 185 190

Val Arg Asp Leu Pro Ser Gly Phe Asn Thr Leu Lys Pro Ile Phe Lys
195 200 205

Leu Pro Leu Gly Ile Asn Ile Thr Asn Phe Arg Ala Ile Leu Thr Ala
210 215 220

Phe Ser Pro Ala Gln Asp Ile Trp Gly Thr Ser Ala Ala Ala Tyr Phe
225 230 235 240

Val Gly Tyr Leu Lys Pro Thr Thr Phe Met Leu Lys Tyr Asp Glu Asn
245 250 255

Gly Thr Ile Thr Asp Ala Val Asp Cys Ser Gln Asn Pro Leu Ala Glu
260 265 270

SEQLIST-20480.TXT

Leu Lys Cys Ser Val Lys Ser Phe Glu Ile Asp Lys Gly Ile Tyr Gln
 275 280 285
 Thr Ser Asn Phe Arg Val Val Pro Ser Gly Asp Val Val Arg Phe Pro
 290 295 300
 Asn Ile Thr Asn Leu Cys Pro Phe Gly Glu Val Phe Asn Ala Thr Lys
 305 310 315 320
 Phe Pro Ser Val Tyr Ala Trp Glu Arg Lys Lys Ile Ser Asn Cys Val
 325 330 335
 Ala Asp Tyr Ser Val Leu Tyr Asn Ser Thr Phe Phe Ser Thr Phe Lys
 340 345 350
 Cys Tyr Gly Val Ser Ala Thr Lys Leu Asn Asp Leu Cys Phe Ser Asn
 355 360 365
 Val Tyr Ala Asp Ser Phe Val Val Lys Gly Asp Asp Val Arg Gln Ile
 370 375 380
 Ala Pro Gly Gln Thr Gly Val Ile Ala Asp Tyr Asn Tyr Lys Leu Pro
 385 390 395 400
 Asp Asp Phe Met Gly Cys Val Leu Ala Trp Asn Thr Arg Asn Ile Asp
 405 410 415
 Ala Thr Ser Thr Gly Asn Tyr Asn Tyr Lys Tyr Arg Tyr Leu Arg His
 420 425 430
 Gly Lys Leu Arg Pro Phe Glu Arg Asp Ile Ser Asn Val Pro Phe Ser
 435 440 445
 Pro Asp Gly Lys Pro Cys Thr Pro Pro Ala Leu Asn Cys Tyr Trp Pro
 450 455 460
 Leu Asn Asp Tyr Gly Phe Tyr Thr Thr Thr Gly Ile Gly Tyr Gln Pro
 465 470 475 480
 Tyr Arg Val Val Val Leu Ser Phe Glu Leu Leu Asn Ala Pro Ala Thr
 485 490 495
 Val Cys Gly Pro Lys Leu Ser Thr Asp Leu Ile Lys Asn Gln Cys Val
 500 505 510
 Asn Phe Asn Phe Asn Gly Leu Thr Gly Thr Gly Val Leu Thr Pro Ser
 515 520 525
 Ser Lys Arg Phe Gln Pro Phe Gln Gln Phe Gly Arg Asp Val Ser Asp
 530 535 540
 Phe Thr Asp Ser Val Arg Asp Pro Lys Thr Ser Glu Ile Leu Asp Ile
 545 550 555 560
 Ser Pro Cys Ala Phe Gly Gly Val Ser Val Ile Thr Pro Gly Thr Asn
 565 570 575
 Ala Ser Ser Glu Val Ala Val Leu Tyr Gln Asp Val Asn Cys Thr Asp
 580 585 590
 Val Ser Thr Ala Ile His Ala Asp Gln Leu Thr Pro Ala Trp Arg Ile
 595 600 605

SEQLIST-20480.TXT

Tyr Ser Thr Gly Asn Asn Val Phe Gln Thr Gln Ala Gly Cys Leu Ile
610 615 620

Gly Ala Glu His Val Asp Thr Ser Tyr Glu Cys Asp Ile Pro Ile Gly
625 630 635 640

Ala Gly Ile Cys Ala Ser Tyr His Thr
645

<210> 7308

<211> 533

<212> PRT

<213> SARS coronavirus

<400> 7308

Val Ser Leu Leu Arg Ser Thr Ser Gln Lys Ser Ile Val Ala Tyr Thr
1 5 10 15

Met Ser Leu Gly Ala Asp Ser Ser Ile Ala Tyr Ser Asn Asn Thr Ile
20 25 30

Ala Ile Pro Thr Asn Phe Ser Ile Ser Ile Thr Thr Glu Val Met Pro
35 40 45

Val Ser Met Ala Lys Thr Ser Val Asp Cys Asn Met Tyr Ile Cys Gly
50 55 60

Asp Ser Thr Glu Cys Ala Asn Leu Leu Leu Gln Tyr Gly Ser Phe Cys
65 70 75 80

Thr Gln Leu Asn Arg Ala Leu Ser Gly Ile Ala Ala Glu Gln Asp Arg
85 90 95

Asn Thr Arg Glu Val Phe Ala Gln Val Lys Gln Met Tyr Lys Thr Pro
100 105 110

Thr Leu Lys Tyr Phe Gly Gly Phe Asn Phe Ser Gln Ile Leu Pro Asp
115 120 125

Pro Leu Lys Pro Thr Lys Arg Ser Phe Ile Glu Asp Leu Leu Phe Asn
130 135 140

Lys Val Thr Leu Ala Asp Ala Gly Phe Met Lys Gln Tyr Gly Glu Cys
145 150 155 160

Leu Gly Asp Ile Asn Ala Arg Asp Leu Ile Cys Ala Gln Lys Phe Asn
165 170 175

Gly Leu Thr Val Leu Pro Pro Leu Leu Thr Asp Asp Met Ile Ala Ala
180 185 190

Tyr Thr Ala Ala Leu Val Ser Gly Thr Ala Thr Ala Gly Trp Thr Phe
195 200 205

Gly Ala Gly Ala Ala Leu Gln Ile Pro Phe Ala Met Gln Met Ala Tyr
210 215 220

Arg Phe Asn Gly Ile Gly Val Thr Gln Asn Val Leu Tyr Glu Asn Gln
225 230 235 240

Lys Gln Ile Ala Asn Gln Phe Asn Lys Ala Ile Ser Gln Ile Gln Glu
245 250 255

SEQLIST-20480.TXT

Ser Leu Thr Thr Thr Ser Thr Ala Leu Gly Lys Leu Gln Asp Val Val
260 265 270
Asn Gln Asn Ala Gln Ala Leu Asn Thr Leu Val Lys Gln Leu Ser Ser
275 280 285
Asn Phe Gly Ala Ile Ser Ser Val Leu Asn Asp Ile Leu Ser Arg Leu
290 295 300
Asp Lys Val Glu Ala Glu Val Gln Ile Asp Arg Leu Ile Thr Gly Arg
305 310 315 320
Leu Gln Ser Leu Gln Thr Tyr Val Thr Gln Gln Leu Ile Arg Ala Ala
325 330 335
Glu Ile Arg Ala Ser Ala Asn Leu Ala Ala Thr Lys Met Ser Glu Cys
340 345 350
Val Leu Gly Gln Ser Lys Arg Val Asp Phe Cys Gly Lys Gly Tyr His
355 360 365
Leu Met Ser Phe Pro Gln Ala Ala Pro His Gly Val Val Phe Leu His
370 375 380
Val Thr Tyr Val Pro Ser Gln Glu Arg Asn Phe Thr Thr Ala Pro Ala
385 390 395 400
Ile Cys His Glu Gly Lys Ala Tyr Phe Pro Arg Glu Gly Val Phe Val
405 410 415
Phe Asn Gly Thr Ser Trp Phe Ile Thr Gln Arg Asn Phe Phe Ser Pro
420 425 430
Gln Ile Ile Thr Thr Asp Asn Thr Phe Val Ser Gly Asn Cys Asp Val
435 440 445
Val Ile Gly Ile Ile Asn Asn Thr Val Tyr Asp Pro Leu Gln Pro Glu
450 455 460
Leu Asp Ser Phe Lys Glu Glu Leu Asp Lys Tyr Phe Lys Asn His Thr
465 470 475 480
Ser Pro Asp Val Asp Leu Gly Asp Ile Ser Gly Ile Asn Ala Ser Val
485 490 495
Val Asn Ile Gln Lys Glu Ile Asp Arg Leu Asn Glu Val Ala Lys Asn
500 505 510
Leu Asn Glu Ser Leu Ile Asp Leu Gln Glu Leu Gly Lys Tyr Glu Gln
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Tyr Ile Lys Trp Pro
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<400> 7309
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Ala Thr Phe Cys Ser Gly Ala Leu Ala Ala Thr Ser Asp Asp Val
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Lys Lys Ala Ala Thr Val Ala Ile Val Ala Ala Tyr Asn Asn Gly Gln
35 40 45
Glu Ile Asn Gly Phe Lys Ala Gly Glu Thr Ile Tyr Asp Ile Gly Glu
50 55 60
Asp Gly Thr Ile Thr Gln Lys Asp Ala Thr Ala Ala Asp Val Glu Ala
65 70 75 80
Asp Asp Phe Lys Gly Leu Gly Leu Lys Lys Val Val Thr Asn Leu Thr
85 90 95
Lys Thr Val Asn Glu Asn Lys Gln Asn Val Asp Ala Lys Val Lys Ala
100 105 110
Ala Glu Ser Glu Ile Glu Lys Leu Thr Thr Lys Leu Ala Asp Thr Asp
115 120 125
Ala Ala Leu Ala Asp Thr Asp Ala Ala Leu Asp Glu Thr Thr Asn Ala
130 135 140
Leu Asn Lys Leu Gly Glu Asn Ile Thr Thr Phe Ala Glu Glu Thr Lys
145 150 155 160
Thr Asn Ile Val Lys Ile Asp Glu Lys Leu Glu Ala Val Ala Asp Thr
165 170 175
Val Asp Lys His Ala Glu Ala Phe Asn Asp Ile Ala Asp Ser Leu Asp
180 185 190
Glu Thr Asn Thr Lys Ala Asp Glu Ala Val Lys Thr Ala Asn Glu Ala
195 200 205
Lys Gln Thr Ala Glu Glu Thr Lys Gln Asn Val Asp Ala Lys Val Lys
210 215 220
Ala Ala Glu Thr Ala Ala Gly Lys Ala Glu Ala Ala Ala Gly Thr Ala
225 230 235 240
Asn Thr Ala Ala Asp Lys Ala Glu Ala Val Ala Ala Lys Val Thr Asp
245 250 255
Ile Lys Ala Asp Ile Ala Thr Asn Lys Ala Asp Ile Ala Lys Asn Ser
260 265 270
Ala Arg Ile Asp Ser Leu Asp Lys Asn Val Ala Asn Leu Arg Lys Glu
275 280 285
Thr Arg Gln Gly Leu Ala Glu Gln Ala Ala Leu Ser Gly Leu Phe Gln
290 295 300
Pro Tyr Asn Val Gly Arg Phe Asn Val Thr Ala Ala Val Gly Gly Tyr
305 310 315 320
Lys Ser Glu Ser Ala Val Ala Ile Gly Thr Gly Phe Arg Phe Thr Glu
325 330 335
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340 345 350

Ser Ala Ala Tyr His Val Gly Val Asn Tyr Glu Trp
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Phe Cys Ser Gly Ala Leu Ala
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<210> 7313
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<400> 7313
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Asp Ala Lys Val Lys Ala Ala Glu Ser Glu Ile Glu Lys Leu Thr Thr
20 25 30

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35 40 45

Asp Glu Thr Thr Asn Ala Leu Asn Lys Leu Gly Glu Asn Ile Thr Thr
50 55 60

Phe Ala Glu Glu Thr Lys Thr Asn Ile Val Lys Ile Asp Glu Lys Leu
65 70 75 80

Glu Ala Val Ala Asp Thr Val Asp Lys His Ala Glu Ala Phe Asn Asp
85 90 95

Ile Ala Asp Ser Leu Asp Glu Thr Asn Thr Lys Ala Asp Glu Ala Val
100 105 110

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Lys Thr Ala Asn Glu Ala Lys Gln Thr Ala Glu Glu Thr Lys Gln Asn
115 120 125
Val Asp Ala Lys Val Lys Ala Ala Glu Thr Ala Ala Gly Lys Ala Glu
130 135 140
Ala Ala Ala Gly Thr Ala Asn Thr Ala Ala Asp Lys Ala Glu Ala Val
145 150 155 160
Ala Ala Lys Val Thr Asp Ile Lys Ala Asp Ile Ala Thr Asn Lys Ala
165 170 175
Asp Ile Ala Lys Asn Ser Ala Arg Ile Asp Ser Leu Asp Lys Asn Val
180 185 190
Ala Asn Leu Arg Lys Glu Thr Arg Gln Gly Leu Ala Glu Gln Ala Ala
195 200 205
Leu Ser Gly Leu Phe Gln Pro Tyr Asn Val Gly Arg Phe Asn Val Thr
210 215 220
Ala Ala Val Gly Gly Tyr Lys Ser Glu Ser Ala Val Ala Ile Gly Thr
225 230 235 240
Gly Phe Arg Phe Thr Glu Asn Phe Ala Ala Lys Ala Gly Val Ala Val
245 250 255
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260 265 270
Glu Trp

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20 25 30
Lys Leu Ala Asp Thr Asp Ala Ala Leu Ala Asp Thr Asp Ala Ala Leu
35 40 45
Asp Glu Thr Thr Asn Ala Leu Asn Lys Leu Gly Glu Asn Ile Thr Thr
50 55 60
Phe Ala Glu Glu Thr Lys Thr Asn Ile Val Lys Ile Asp Glu Lys Leu
65 70 75 80
Glu Ala Val Ala Asp Thr Val Asp Lys His Ala Glu Ala Phe Asn Asp
85 90 95
Ile Ala Asp Ser Leu Asp Glu Thr Asn Thr Lys Ala Asp Glu Ala Val
100 105 110
Lys Thr Ala Asn Glu Ala Lys Gln Thr Ala Glu Glu Thr Lys Gln Asn
115 120 125

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Val Asp Ala Lys Val Lys Ala Ala Glu Thr Ala Ala Gly Lys Ala Glu
 130 135 140
 Ala Ala Ala Gly Thr Ala Asn Thr Ala Ala Asp Lys Ala Glu Ala Val
 145 150 155 160
 Ala Ala Lys Val Thr Asp Ile Lys Ala Asp Ile Ala Thr Asn Lys Ala
 165 170 175
 Asp Ile Ala Lys Asn Ser Ala Arg Ile Asp Ser Leu Asp Lys Asn Val
 180 185 190
 Ala Asn Leu Arg Lys Glu Thr Arg
 195 200

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 20 25 30
 Glu Ser Ala Val Ala Ile Gly Thr Gly Phe Arg Phe Thr Glu Asn Phe
 35 40 45
 Ala Ala Lys Ala Gly Val Ala Val Gly Thr Ser Ser Gly Ser Ser Ala
 50 55 60
 Ala Tyr His Val Gly Val Asn Tyr Glu Trp
 65 70

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<400> 7316
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 <211> 31
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<400> 7317
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<210> 7318
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<400> 7318
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<210> 7319
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<211> 41
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 atatatatgc ggccgcttat gtgtaatgta atttgacacc c 41

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<210> 7336
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<210>   7351

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gttcgt                6

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<400>    7388
taaacgaac                9

<210>    7389
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<220>
<223>    Poly-T

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<400>    7390
cgggtgtaagt gcagcccgtc ttacaccg                28

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<212> PRT
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<400> 7392
Gly Gly Gly Gly Ser Gly
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<210> 7393
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Gln Lys Lys Gln Pro Thr Val Thr Leu Leu Pro Ala Ala Asp Met Asp
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Asp Phe Ser Arg Gln
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28

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27

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26

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<210> 7401

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Cys Thr Asp Asp Asn Ala Leu Ala Tyr
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Ala Ser Leu Pro Phe Gly Trp Leu Val
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<210>      8412

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Phe Gln Phe Ile Cys Asn Leu Leu Leu
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Val Ile Gly Val Ala Phe Leu Ala Val
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Tyr Gln Leu Glu Ser Thr Gln Ile Thr
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Val Val His Gly Tyr Phe Thr Glu Val
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Ala Gln Phe Leu Tyr Leu Tyr Ala Leu
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Tyr Val Val Val His Gly Tyr Phe Thr
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Lys Gly Phe Gln Phe Ile Cys Asn Leu
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SEQLIST-20480.TXT

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Gly Met Glu Ala Gln Phe Leu Tyr Leu
1          5

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Phe Ile Cys Asn Leu Leu Leu Leu Phe Val
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Ala Leu Tyr Lys Gly Phe Gln Phe Ile Cys
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Thr Leu Gly Ser Ile Thr Ala Gln Pro Val
1          5          10

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Tyr Gln Leu Glu Ser Thr Gln Ile Thr Thr
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Leu Leu Leu Val Ala Ala Gly Met Glu Ala
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Pro Leu Leu Tyr Asp Ala Asn Tyr Phe Val
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Ala Gly Met Glu Ala Gln Phe Leu Tyr Leu
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Leu Val Ile Gly Val Ala Phe Leu Ala Val
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Val Val Val His Gly Tyr Phe Thr Glu Val
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Ala Thr Lys Ile Ile Ala Leu Asn Lys
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Arg Cys Trp Leu Cys Trp Lys Cys Lys
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<400> 8444
Phe Phe Ile Phe Asn Lys Leu Val Lys
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<400> 8445
Ile Ile Met Arg Cys Trp Leu Cys Trp Lys
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<400> 8446
Thr Phe Phe Ile Phe Asn Lys Leu Val Lys
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Asp Leu Phe Met Arg Phe Phe Thr Leu
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Trp Leu Val Ile Gly Val Ala Phe Leu
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Gln Ser Ala Thr Lys Ile Ile Ala Leu
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Leu Asn Lys Arg Trp Gln Leu Ala Leu
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Lys Cys Lys Ser Lys Asn Pro Leu Leu
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Ser Pro Ala Ser Thr Val His Ala Thr
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1              5              10

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Thr Val His Ala Thr Ala Thr Ile Pro Leu
1              5              10

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Phe Val Thr Ile Tyr Ser His Leu Leu Leu
1              5              10

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Thr Ala Thr Ile Pro Leu Gln Ala Ser Leu
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1              5              10

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Asn Ala Thr Phe Phe Ile Phe Asn Lys Leu
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Thr Pro Lys Leu Lys Glu Asp Tyr Gln Ile
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Lys Gly Phe Gln Phe Ile Cys Asn Leu Leu
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Phe Thr Thr Ser Leu Ser Leu His Lys
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Val Ser Gln Ile Gln Leu Ser Leu Leu Lys
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His Ser Ser Ser Leu Thr Ser Leu Leu Lys
1 5 10

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Gly Thr His Ile Thr Met Thr Thr Val Tyr
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 1 5

<210> 8503